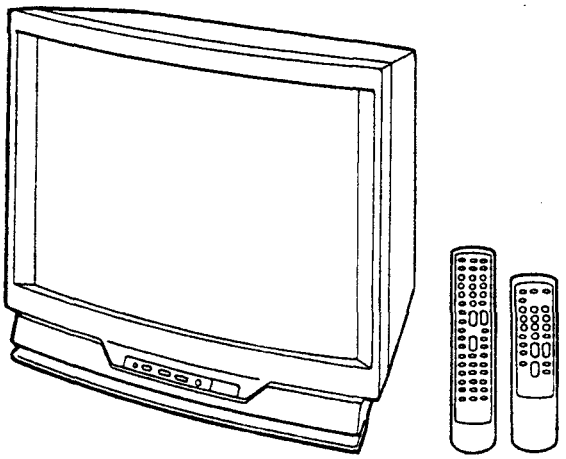
KV-27TS29/27TS32/27TS36

RM-Y116 RM-Y117 RM-Y118

KV-32TS36/32TS46

RM-Y118 RM-Y118
SA-W200

SERVICE MANUAL



US Model

KV-27TS29 Chassis No. SCC-F84C-A
KV-27TS32 Chassis No. SCC-F84E-A
KV-27TS36 Chassis No. SCC-F84D-A
KV-32TS36 Chassis No. SCC-F84A-A
KV-32TS46 Chassis No. SCC-F84B-A

Canadian Model

KV-27TS29 Chassis No. SCC-F85C-A
KV-27TS36 Chassis No. SCC-F85D-A
KV-32TS36 Chassis No. SCC-F85A-A
KV-32TS46 Chassis No. SCC-F85B-A

AA-1 CHASSIS

MODELS OF THE SAME SERIES	
KV-27TS29/27TS32/27TS36 KV-32TS36/32TS46	
KV-29XTR10	

SPECIFICATIONS

Television system American TV standards

Channel coverage
VHF: 2–13
UHF: 14–69
Cable TV: 1–125

Picture tube
Hi-Black™ Trinitron® tube
27-inch picture measured diagonally
29-inch picture tube measured diagonally (KV-27TS29/27TS32/27TS36)

32-inch picture measured diagonally
34-inch picture tube measured diagonally (KV-32TS36/32TS46)

Antenna 75-ohm external antenna terminal for VHF/UHF

Input
VIDEO and S VIDEO
S VIDEO IN (S terminal)
Y: 1 Vp-p, 75-ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75-ohms
Video (phono jacks): 1 Vp-p, 75-ohms unbalanced, sync negative
Audio (phono jacks): 500 mVrms (100% modulation)
Impedance: 47 kilohms

— Continued on next page —

MICROFILM

TRINITRON® COLOR TV

SONY®

MC-Service

Output AUDIO OUT (phono jacks)
More than 408 mVrms at the maximum volume setting (variable)
More than 408 mVrms (fix)
Impedances: 5 kilohms

Speaker output 5 W × 2

Audio frequency response : FRONT 80Hz - 20kHz

Power requirements 120 V AC, 60 Hz

Power consumption

KV-27TS29	165 W
KV-27TS32	165 W
KV-27TS36	170 W
KV-32TS36	195 W
KV-32TS46	205 W
standby mode	5 W

Dimensions/Weight

	Dimensions (w/h/d)	Weight
KV-27TS29	661 × 603 × 522 mm (26 1/8 × 23 3/4 × 20 5/8 in.)	45 kg (99 lbs 4 oz)
KV-27TS32	661 × 603 × 522 mm (26 1/8 × 23 3/4 × 20 5/8 in.)	45 kg (99 lbs 4 oz)
KV-27TS36	661 × 603 × 522 mm (26 1/8 × 23 3/4 × 20 5/8 in.)	45 kg (99 lbs 4 oz)
KV-32TS36	781 × 712 × 612 mm (30 3/4 × 28 1/8 × 24 1/8 in.)	71 kg (156 lbs 9 oz)
KV-32TS46	781 × 712 × 612 mm (30 3/4 × 28 1/8 × 24 1/8 in.)	71 kg (156 lbs 9 oz)

Supplied accessories

(KV-27TS29)
Remote Commander RM-Y116(1) with 2 size AA (R6) EVEREADY batteries
(KV-27TS32)
Remote Commander RM-Y117(1) with 1 size AA (R6) EVEREADY battery
(KV-27TS36/32TS36/32TS46)
Remote Commander RM-Y118(1) with 1 size AA (R6) EVEREADY battery
(KV-32TS46)
Active Super Woofer

Recommended accessories

U/V mixer EAC-66
Connecting cable
VMC-810S/820S, VMC-720M, YC-15V/30V, RK-74A

Design and specifications are subject to change without notice.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS ÁLA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MAPQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

9146

SAFETY CHECK-OUT

(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).
   Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

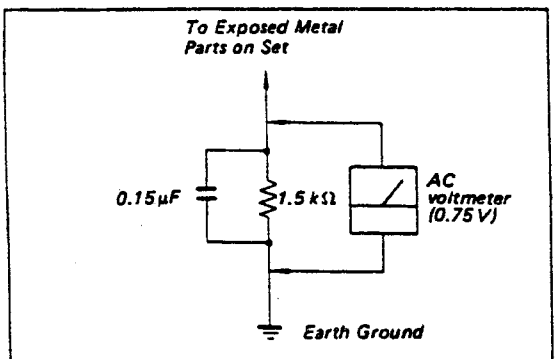


Fig. A. Using an AC voltmeter to check AC leakage.

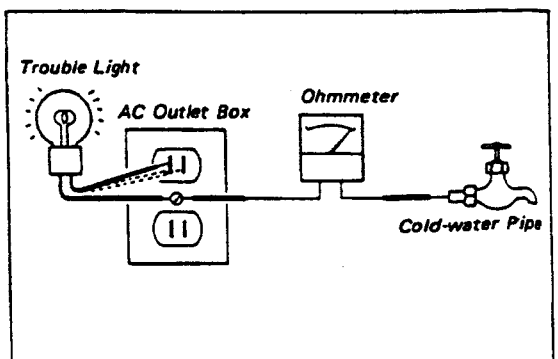


Fig. B. Checking for earth ground.

MC-Service

V-27TS29/27TS32/27TS36
RM-Y116 RM-Y117 RM-Y118
V-32TS36/32TS46
RM-Y118 RM-Y118
SA-W200

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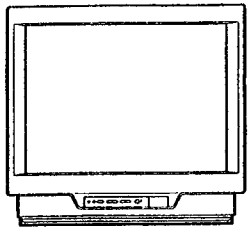
SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. INTRODUCTING THE SONY TRINITRON® COLOR TV

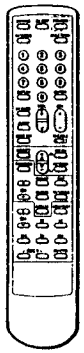
Design

KV-27TS29 KV-32TS36
KV-27TS32 KV-32TS46
KV-27TS36

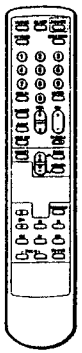


Supplied Remote Commander

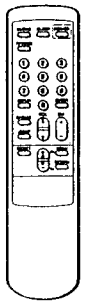
RM-Y118



RM-Y117



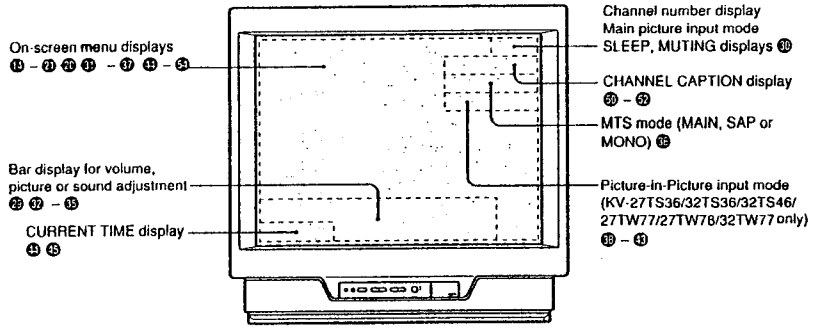
RM-Y116



1-2. LOCATING THE CONTROLS

Screen Displays

For details, see the pages indicated by the numbered black circles ●.


On-screen menu displays
⓮ – ㉑ ⓴ ⓳ – ㉗ ㉘ – ㉝
Bar display for volume, picture or sound adjustment
㉓ ㉗ – ㉝
CURRENT TIME display
㊶ ㊺
Channel number display
Main picture input mode
SLEEP, MUTING displays ㉚
CHANNEL CAPTION display
㉙ – ㉜
MTS mode (MAIN, SAP or MONO) ㊷
Picture-in-Picture input mode (KV-27TS36/32TS36/32TS46/27TW77/27TW78/32TW77 only)
㊳ – ㊸

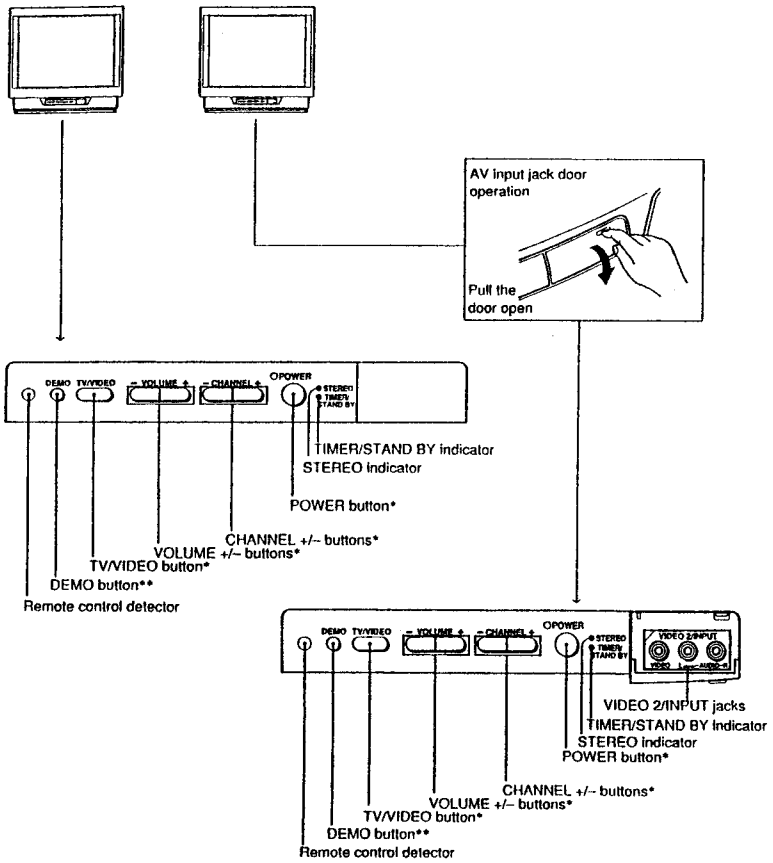
KV-32TS36
(The screen displays, except for certain features as noted above, are the same for all models.)

MC-Service

Front Panel

KV-27TS29

KV-27TS32 KV-27TS36
KV-32TS36 KV-32TS46

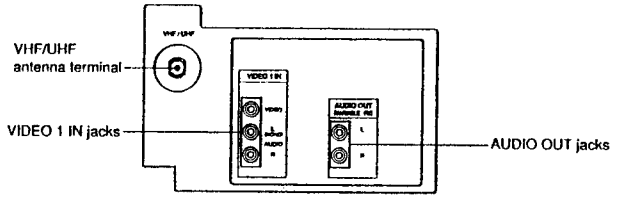


* Buttons with the same function are also located on the Remote Commander (pp. 10 – 11).

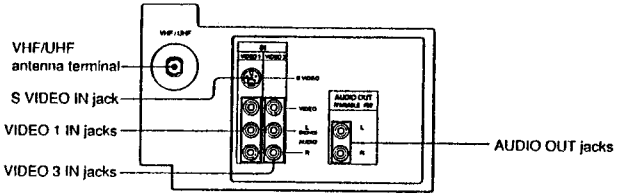
** If you press this button, functions and menues are displayed one by one. Press any button to stop DEMO.

Rear Panel

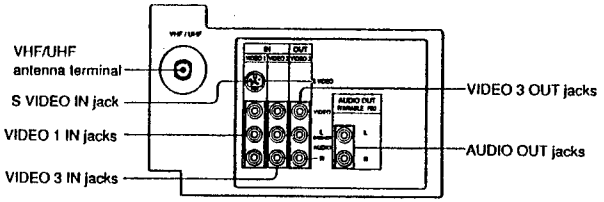
KV-27TS29



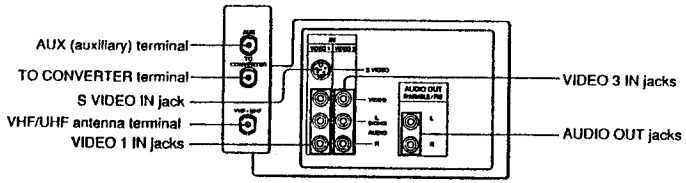
KV-27TS36 KV-32TS36



KV-27TS32

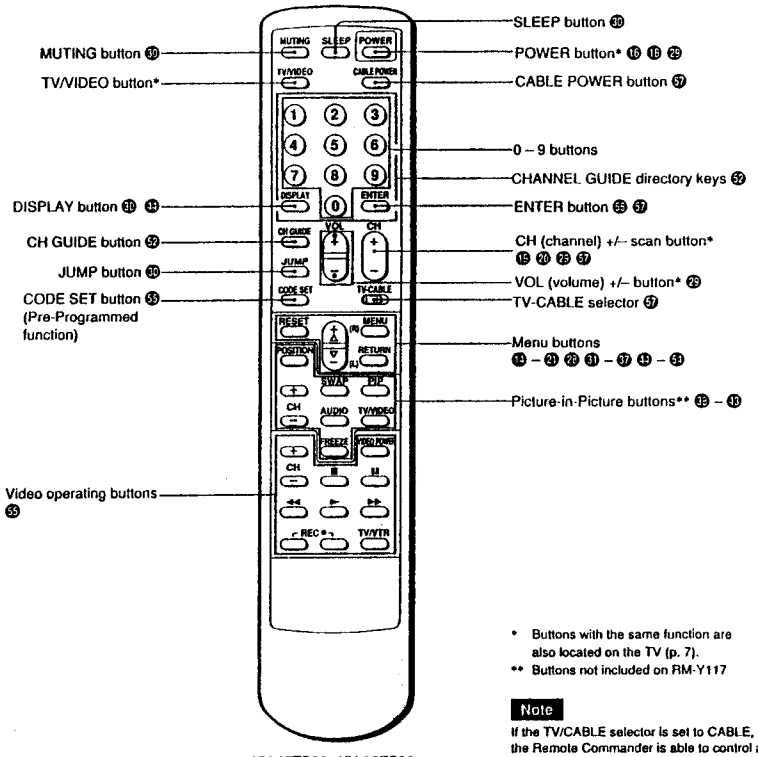


KV-32TS46



Remote Commander

For details, see the pages indicated by the numbered black circles ●.


MUTING button ⑩
TV/VIDEO button*
DISPLAY button ⑩ ⑪
CH GUIDE button ⑫
JUMP button ⑩
CODE SET button ⑬
(Pre-Programmed function)
Video operating buttons ㉟
SLEEP button ⑩
POWER button* ⑮ ⑯ ㉙
CABLE POWER button ㊼
0 – 9 buttons
CHANNEL GUIDE directory keys ⑫
ENTER button ㉟ ㊼
CH (channel) +/– scan button* ⑮ ⑳ ㉕ ㊼
VOL (volume) +/– button* ㉕
TV-CABLE selector ㊼
Menu buttons ⑭ – ㉑ ㉘ ㉛ – ㊲ ㊹ – ㊾
Picture-in-Picture buttons** ㊸ – ㊽

RM-Y118: KV-27TS36 KV-32TS36 KV-32TS46

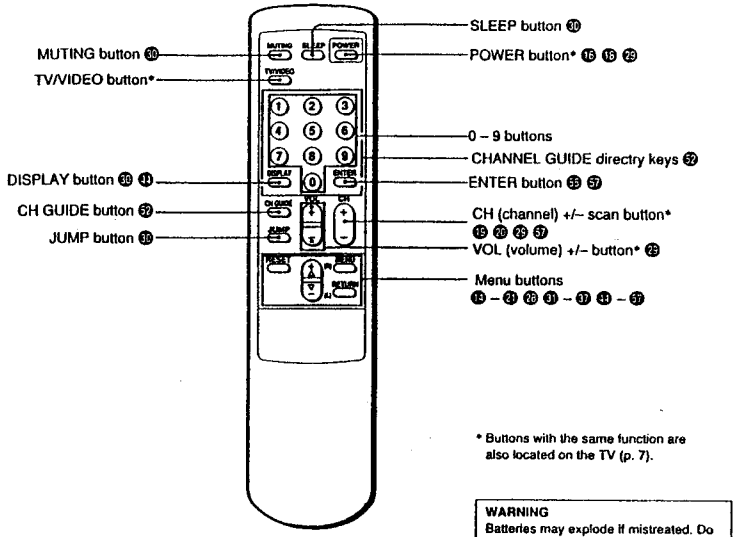
(RM-Y117: KV-27TS32)

* Buttons with the same function are also located on the TV (p. 7).

** Buttons not included on RM-Y117

Note

If the TV/CABLE selector is set to CABLE, the Remote Commander is able to control a connected cable box, not the TV . Set the selector to TV to control the TV set with the Remote Commander (You can use POWER button at any case).


MUTING button ⑩
TV/VIDEO button*
DISPLAY button ⑩ ⑪
CH GUIDE button ⑫
JUMP button ⑩
SLEEP button ⑩
POWER button* ⑮ ⑯ ㉙
0 – 9 buttons
CHANNEL GUIDE directry keys ⑫
ENTER button ㉟ ㊼
CH (channel) +/– scan button* ⑮ ⑳ ㉕ ㊼
VOL (volume) +/– button* ㉕
Menu buttons ⑭ – ㉑ ㉘ ㉛ – ㊲ ㊹ – ㊾

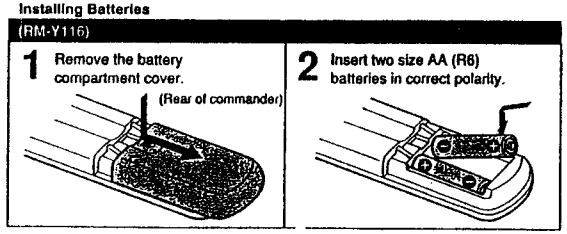
RM-Y116: KV-27TS29

* Buttons with the same function are also located on the TV (p. 7).

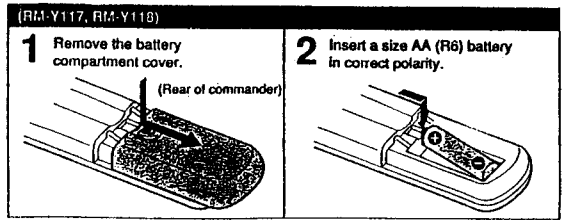
WARNING
Batteries may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

Installing Batteries

(RM-Y116)



(RM-Y117, RM-Y118)



Battery life
With normal operation, batteries will last up to half a year. If the Remote Commander dose not operate properly, the batteries might be exhausted. Replace both of them with new ones.

To avoid damage from possible battery leakage
Remove the batteries if you do not plan to use the Remote Commander for a fairly long time.

MC-Service

1-3. USING THE ON-SCREEN MENUS

The following flow chart shows the different levels of on-screen menus that you can use to make various adjustments and settings. See the indicated pages for instructions on using each feature.

For picture quality adjustment

Main menu

```
▸VIDEO
 AUDIO
 TIME
 SET UP
 CLOSED CAPTION
Use ≑ ENTER Exit END
```

→ VIDEO menu (pp. 32–33)

```
VIDEO
 PICTURE
 HUE
 COLOR
▸BRIGHT
 SHARP
 >MENU
Use ≑ ENTER Exit END
```

→ Adjustment bar

```
BRIGHTNESS
```

For sound quality adjustment

Main menu

```
 VIDEO
▸AUDIO
 TIME
 SET UP
 CLOSED CAPTION
Use ≑ ENTER Exit END
```

→ AUDIO menu (pp. 34–37)

```
AUDIO
 TREBLE
▸BASS
 BALANCE
 SURROUND:OFF
 MTS:    MAIN
 SPEAKER: ON
 >MENU
```

→ Adjustment bar

```
BASS
```

→ AUDIO OUT screen (p. 37)

```
AUDIO OUT
▸VARIABLE
 FIXED
 >MENU
Use ≑ ENTER Exit END
```

For time-related settings

Main menu

```
 VIDEO
 AUDIO
▸TIME
 SET UP
 CLOSED CAPTION
Use ≑ ENTER Exit END
```

→ TIME menu

```
TIME
▸CURRENT TIME SET
 ON/OFF TIMER
 CHANNEL BLOCK
 >MENU
 --- --:-- --
Use ≑ ENTER Exit END
```

→ CURRENT TIME SET screen (pp. 44–45)

```
CURRENT TIME SET
▸--- --:-- --
 >MENU
Use ≑ ENTER Exit END
```

→ ON/OFF TIMER screen (pp. 46–47)

```
ON/OFF TIMER
▸EVERY SUN-SAT
 12:00AM _h CH___
 >MENU
Use ≑ ENTER Exit END
```

→ CHANNEL BLOCK screen (pp. 48–49)

```
CHANNEL BLOCK
▸EVERY SUN-SAT
 12:00AM _h CH___
 >MENU
Use ≑ ENTER Exit END
```

For language setting (p.16)
(KV-27TS32 only)

Main menu

```
 VIDEO
 AUDIO
 TIME
 SET UP
 CLOSED CAPTION
▸ENGLISH
Use ≑ ENTER Exit END
```

For presetting and other functions

Main menu

```
 VIDEO
 AUDIO
 TIME
▸SET UP
 CLOSED CAPTION
Use ≑ ENTER Exit END
```

→ SET UP menu

```
SET UP
▸CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION/GUIDE
 S VIDEO
 VIDEO LABEL
 >MENU
```

→ CABLE ON/OFF screen (p. 17)

```
SET UP
▸CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION/GUIDE
 S VIDEO
 VIDEO LABEL
 >MENU
```

→ AUTO PROGRAM screen (p. 18)

```
AUTO PROGRAM
```

→ CHANNEL ERASE/ADD screen (pp. 19–21)

```
CH ERASE/ADD
                10
 ▸ERASE
  ADD
  >MENU
Select the channel
Use ≑ ENTER Exit END
```

→ CHANNEL CAPTION/GUIDE screen (pp. 50–51)

```
CH CAPTION/GUIDE
① ② ③   ▸ ---
④ ⑤ ⑥     ---
⑦ ⑧ ⑨   >
CLR 0 ENT
Use ≑ ENTER Exit END
```

→ S VIDEO ON/OFF screen (p. 28)

```
SET UP
 CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION/GUIDE
▸S VIDEO: ON
 VIDEO LABEL
 >MENU
```

→ VIDEO LABEL screen (pp. 53–54)

```
VIDEO LABEL
▸VIDEO1: VIDEO1
 VIDEO2: VIDEO2
 VIDEO3: VIDEO3
 >MENU
Use ≑ ENTER Exit END
```

For closed caption setting

Main menu

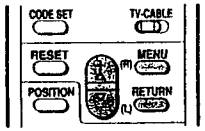
```
 VIDEO
 AUDIO
 TIME
 SET UP
▸CLOSED CAPTION
Use ≑ ENTER Exit END
```

→ CLOSED CAPTION screen (p. 31)

```
CLOSED CAPTION
▸CC/TEXT OFF
 CC1
 CC2
 TEXT1
 TEXT2
 >MENU
Use ≑ ENTER Exit END
```

Navigating through the Menus

Remote Commander



To display the main menu
Press MENU.

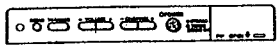
To return to the previous menu
Press △+ or ▽– to select "⮌ MENU."
Then press RETURN.

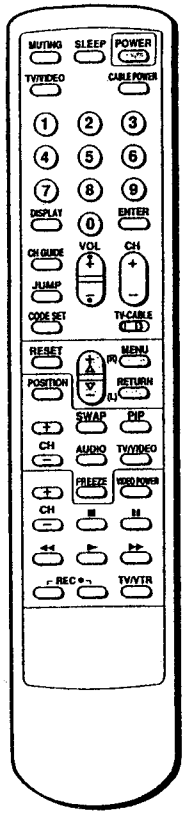
To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU on the Remote Commander.

Note

The menus disappear automatically if you do not press a button within 90 seconds.
The menu you cannot select appears in black.





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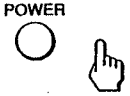
To return to the normal screen
Press MENU.

Changing the Menu Language (KV-27TS32/2970RS only)

The menu language is factory-set to ENGLISH. Follow these instructions to change the menu language to Spanish or back to English.

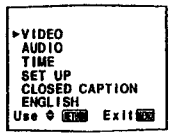
1 Press POWER on the TV or the Remote Commander to turn the TV on.

POWER

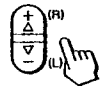


2 Press MENU.
The main menu appears.

MENU

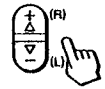


3 Press Δ+ or ∇– to select ENGLISH.
Then press RETURN.



RETURN

4 Press Δ+ or ∇– to select language.
Each time you press Δ+ or ∇–,
ESPAÑOL and ENGLISH menus appear.



Note

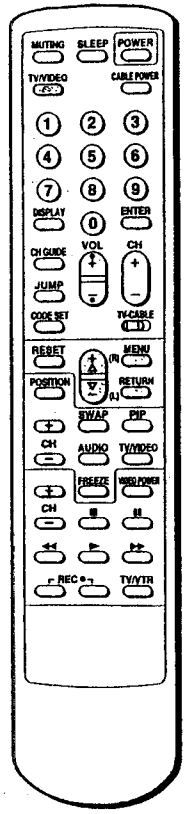
Certain parts of the ESPAÑOL menus remain in English.

5 Press RETURN.
The language is selected.

RETURN

Spanish menu

All of the controls are on the Remote Commander.



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To return to the normal screen
Press MENU.

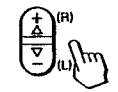
1-4. TURNING THE CABLE MODE ON OR OFF

If you have cable connected to your TV (pp.12–13), follow the steps below to turn the cable connection on or off. CABLE is preset to ON when you use your TV for the first time. Then turn CABLE to OFF to preset or watch VHF or UHF channels (pp.18-21 and 29).

1 Press MENU.
The main menu appears.

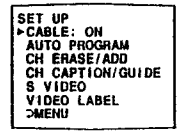
MENU

2 Press Δ+ or ∇– to select SET UP.



Press RETURN.
The SET UP menu appears, and the cursor points to "CABLE".

RETURN

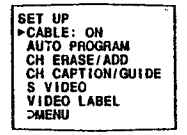


Note

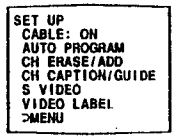
If the CABLE display appears in black, the TV is in VIDEO mode and you cannot select CABLE. Press TV/VIDEO to change to TV mode.

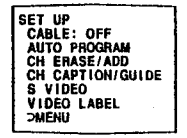
3 Press RETURN again.

RETURN



Press Δ+ or ∇– to select ON or OFF alternately.





Press RETURN.
The setting is completed.

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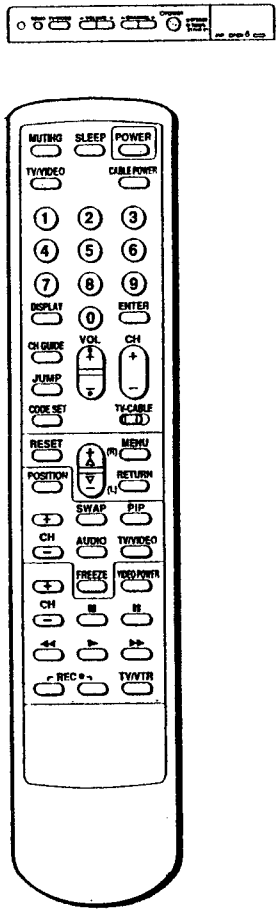
1-5. PRESETTING TV CHANNELS



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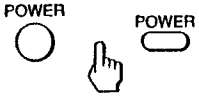
Channels that can be received on this TV:

VHF	UHF	Cable
2-13	14-69	1-125

Presetting TV Channels Automatically

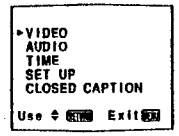
1 Press POWER on the TV or the Remote Commander to turn the TV on.



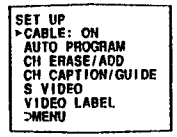
2 Set the cable connection on or off, depending on if you want to preset cable or VHF/UHF channels.
(Follow the steps in "Turning the Cable Mode On or Off", p.17)

If "VIDEO" is displayed on the screen, press the TV/VIDEO button on the TV or the Remote Commander so that a channel number appears.

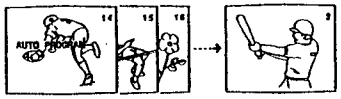
3 Press MENU.
The main menu appears.

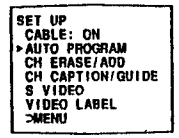


4 Press Δ+ or ∇– to select SET UP.
Then press RETURN.
The SET UP menu appears.



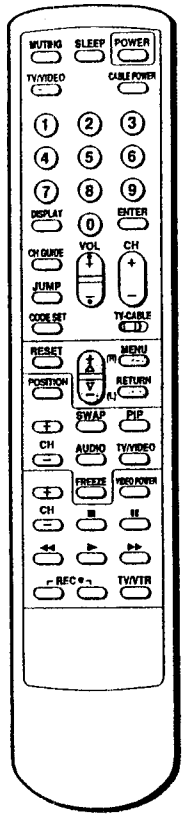
5 Press Δ+ or ∇– to select AUTO PROGRAM.
Then press RETURN.





"AUTO PROGRAM" appears on the screen and receivable channels (other than the channels already preset) are preset in numerical sequence. The channels previously preset will not remain in the TV's memory.
When no more channels can be found, the programming stops and the lowest numbered channel is displayed.

To erase unnecessary channels, or to add channels that could not be preset automatically because their signal was too weak, follow the steps in "Erasing Unnecessary Channels — CHANNEL ERASE" (pp.19–20) and "Presetting Only Desired Channels — CHANNEL ADD" (p. 21).



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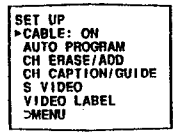
Erasing Unnecessary Channels—CHANNEL ERASE

Use this feature to erase unnecessary TV channels, so that when you press CH +/–, the channel(s) are skipped.

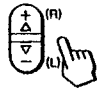
1 Press MENU.
The main menu appears.

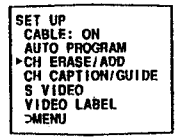
2 Press Δ+ or ∇– to select SET UP.

Press RETURN.
The SET UP menu appears.

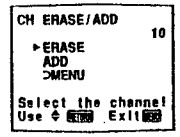


3 Press Δ+ or ∇– to select CH ERASE/ADD.



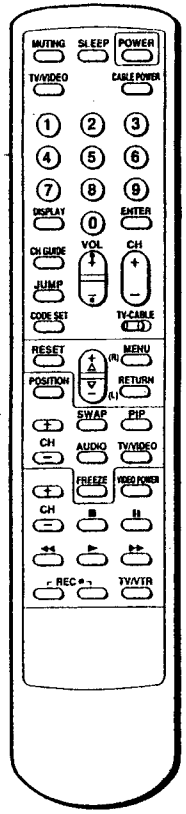


Press RETURN.
The CH ERASE/ADD screen appears, and the cursor points to "ERASE".



Note

If CH ERASE/ADD display appears in black, the TV is in video mode and you cannot select CH ERASE/ADD.
Press TV/VIDEO to change to TV mode.



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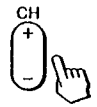
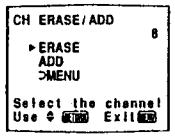
To return to the normal screen
Press MENU.

Note

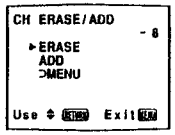
When you erase a VHF or UHF channel, the cable TV channel with the same number is also erased, and vice versa.

4 Press the CH +/– button to select the channel you want to erase.
For example, to erase channel 8, press CH +/– until 8 appears.





Press RETURN.
A "–" sign appears in front of the channel number display, indicating that the channel is erased from the channel scan memory.



The next time you press the CH +/– buttons, channel 8 will be skipped.

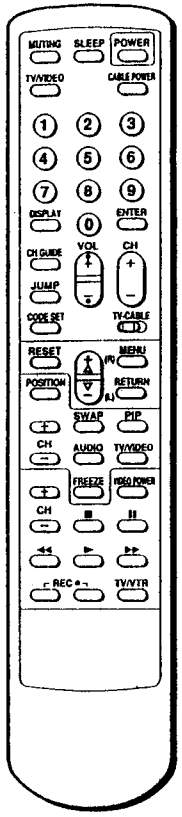
To erase other channels
Repeat step 4.

Cable TV channel chart*
Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to the chart below.

Number on this TV	Corresponding cable TV channel
1	A-8
5	A-7
6	A-6
14	A
15	B
16	C
17	D
18	E
19	F
20	G
21	H
22	I
23	J
24	K
25	L
26	M
27	N
28	O
29	P
30	Q
31	R
32	S

Number on this TV	Corresponding cable TV channel
33	T
34	U
35	V
36	W
37	W+1
38	W+2
39	W+3
⋮	⋮
93	W+57
94	W+58
95	A-5
96	A-4
97	A-3
98	A-2
99	A-1
100	W+59
101	W+60
102	W+61
⋮	⋮
123	W+82
124	W+83
125	W+84

* This designation of cable TV channels conforms to the EIA/NCTA recommendation. Check with your local cable TV company for more complete information on the available channels.



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To return to the normal screen
Press MENU.

Note

If you add a VHF or UHF channel, the cable TV channel with the same number is also added, and vice versa.

Presetting Only Desired Channels—CHANNEL ADD

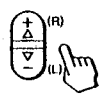
Use this feature to add channels one by one to the channel scan memory.

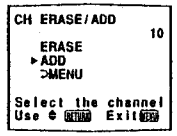
1-3 (Follow steps 1–3 in "Erasing Unnecessary Channels—CHANNEL ERASE," p.19.)

Note

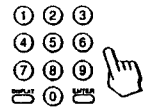
If the CH ERASE/ADD display appears in black, the TV is in video mode and you cannot select CHANNEL ERASE/ADD.
Press TV/VIDEO to change to TV mode.

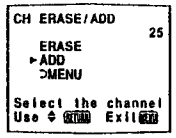
4 Press Δ + or ∇ – to select ADD.



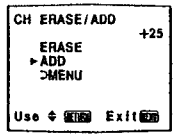


5 Press 0–9 and ENTER to select the channel you want to add.
For example, to add channel 25, press 2, 5 and ENTER.





Press RETURN.
A "+" sign appears in front of the channel number display, indicating that the channel is added to the channel scan memory.



To add other channels
Repeat step 5.

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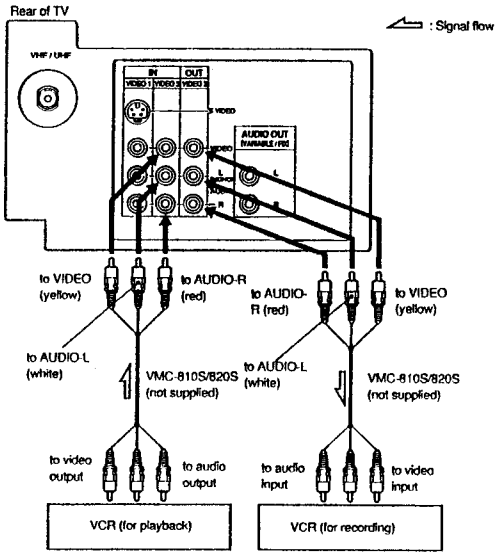
1-6. CONNECTING OTHER EQUIPMENT

Connecting two VCRs for tape editing (KV-27TS32 only)



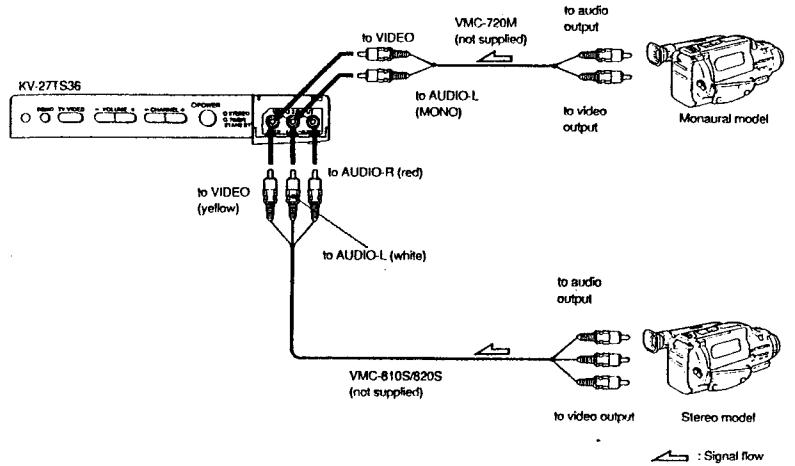
Watching a different image while duplicating

You can duplicate your recorded tapes by connecting two VCRs.
The VIDEO 3 OUT jacks only output the signal from the VIDEO 3 IN jacks. Connect a VCR for playback to VIDEO 3 IN jacks, and a VCR for recording to the VIDEO 3 OUT jacks. You can watch a TV program or images from VIDEO 1 IN or VIDEO 2 IN during duplicating.

To watch a different input image
Press TV/VIDEO on the TV or on the Remote Commander to select the input image you want to watch.

Connecting camcorders (except for KV-27TS29)

Playing back recorded tapes

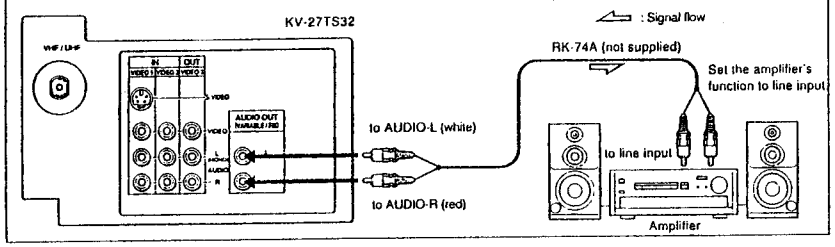


Preparing for use

Same as p. 23.

Audio System

Listening to TV or connected VCR sound through an audio system



Preparing for use

Display the mode set menu and set SPEAKER to OFF to cut off the TV speaker sound (p. 37), and listen to the TV's sound solely through the audio system speakers.

Note

By setting AUDIO OUT variable, you can adjust the bass, treble and balance, or select surround or an MTS (Multichannel TV Sound) mode, using the on-screen menus (pp. 34–36).

Connecting active super woofer (supplied with KV-32TS46 only)

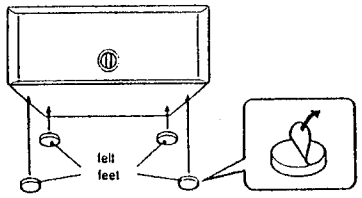
Preparing for use

To enjoy the active super woofer sound, make sure the connections are made as illustrated on the next page.

The woofer volume varies according to the TV volume. Adjust the woofer level control properly.

The active super woofer outputs the signal input to its AUDIO IN jacks. If you connect an audio system to the active super woofer's AUDIO OUT jacks, you can enjoy the sound from the audio system and the active super woofer simultaneously.

To make the active super woofer stable, attach the felt feet (supplied) to the bottom.

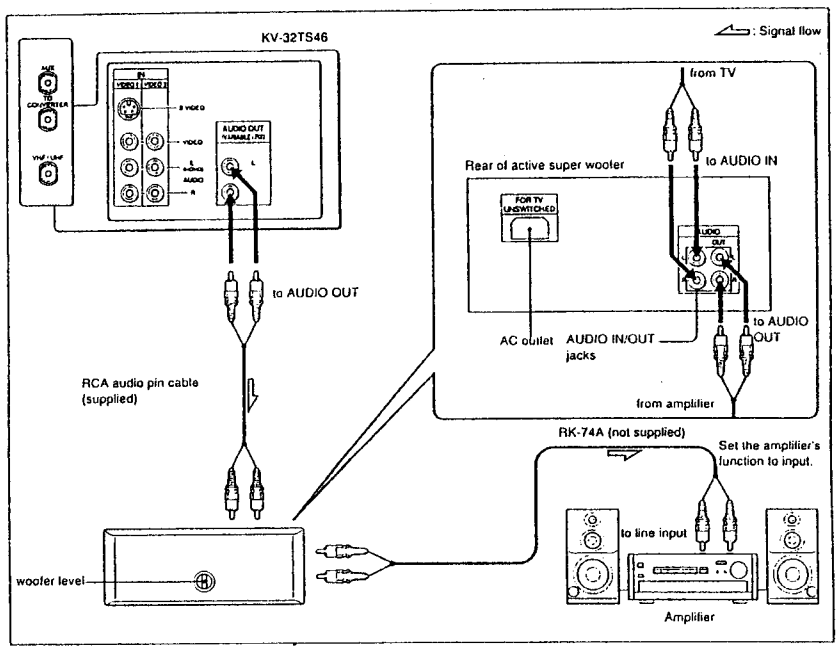


Notes

- Do not place the woofer on the TV set. To enjoy good sound, place the woofer on a hard object near the TV avoiding soft objects like carpets, sofas, etc.
- If you do not use the TV for more than 20 seconds, the active super woofer is turned off automatically to save on power consumption.
- When you release MUTING, the sound of the woofer is heard before that of the TV. This is normal.
- If you set SPEAKER to OFF in the AUDIO menu and select FIX in the AUDIO OUT menu (p.37), the volume of the woofer may be excessive. We recommend that you set SPEAKER to ON when you use the active super woofer.
- You should only connect the KV-32TS46 to the AC outlet on the active super woofer.

Active Super Woofer Specification

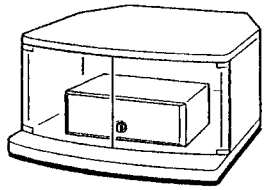
Input:	500 mVrms (100% modulation)
Output:	500 mVrms (100% modulation)
Impedance:	20 kilohms
Speaker output:	9 W (100 Hz)
Dimensions:	435 × 165 × 164 mm (W × H × D) (17¼ × 6½ × 6½ in.)
Mass:	3.9 kg (8 lbs 10 oz)



Using TV stand

When you place the active super woofer on a TV stand (not supplied), remove the rear panel of the stand.

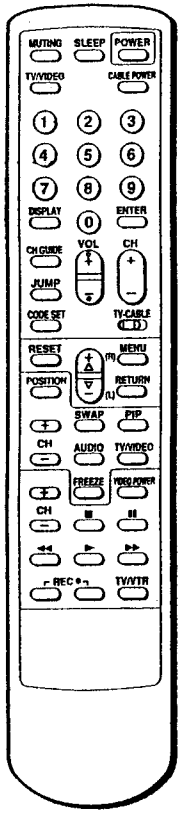
Sony or other manufacture's stand



Note

For good sound quality, avoid placing the stand in front of a curtain or close to a wall.

MC-Service



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To return to the normal screen
Press MENU.

Note

If you set S VIDEO to ON, the TV automatically receives S video signals whenever a VCR with S video is connected.

Watching a Video with Your S Video-Equipped VCR (except for KV-27TS29/2970RS)

Use this feature to set S VIDEO to ON or OFF depending on the kind of video equipment you have connected to the TV. For instructions on connecting video equipment, see pp.22–25.

Note

If the TV is in TV, VIDEO 2 or VIDEO 3 mode, the S VIDEO display appears in black and cannot be selected.
Press TV/VIDEO to change to VIDEO 1 mode.

1 Press MENU.
The main menu appears.

MENU

```
▸VIDEO
 AUDIO
 TIME
 SET UP
 CLOSED CAPTION
Use ◆ ENTER  Exit MENU
```

2 Press △+ or ▽– to select SET UP.

(R) (L)

```
 VIDEO
 AUDIO
 TIME
▸SET UP
 CLOSED CAPTION
Use ◆ ENTER  Exit MENU
```

Press RETURN.
The SET UP menu appears.

RETURN

```
SET UP
▸CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION/GUIDE
 S VIDEO: ON
 VIDEO LABEL
>MENU
```

3 Press △+ or ▽– to select S VIDEO.
Then press RETURN.

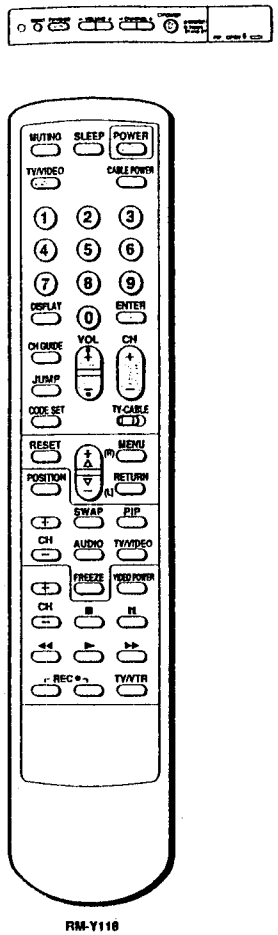
(R) (L) RETURN

```
SET UP
 CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION/GUIDE
▸S VIDEO: ON
 VIDEO LABEL
>MENU
```

Press △+ or ▽– to select ON or OFF alternately.

```
SET UP                    SET UP
 CABLE: ON                 CABLE: ON
 AUTO PROGRAM              AUTO PROGRAM
 CH ERASE/ADD      ↔       CH ERASE/ADD
 CH CAPTION/GUIDE          CH CAPTION/GUIDE
 S VIDEO: ON               S VIDEO: OFF
 VIDEO LABEL               VIDEO LABEL
>MENU                     >MENU
```

Press RETURN.
The setting is completed.



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1 Press POWER on the TV or the Remote Commander to turn the TV on.
The TIMER/STAND BY indicator blinks until the picture appears.

POWER POWER

2 Turn the cable mode on or off to select the type of channel you want to watch, VHF/UHF or cable TV.
(Follow the steps in "Turning the Cable Mode On or Off," p. 17.)

If "VIDEO" or "S VIDEO" is displayed on the screen, press the TV/VIDEO button on the TV or on the Remote Commander so that the channel number appears.

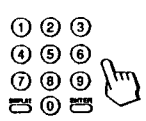
3 Select a channel in one of the following two ways:

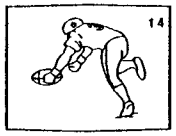
To scan the preset channels* in numerical sequence
Press CH +/–.

CH

* For more information on presetting channels, see pp. 18 – 21.

To select a channel directly
Press 0 – 9 and ENTER.
For example, to select channel 14, press 1, 4 and ENTER.

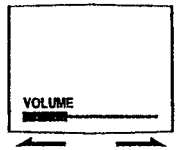




4 Press VOL +/– to adjust the volume.

VOL

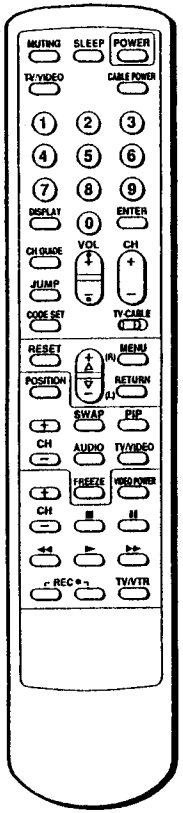
The display will disappear automatically after 3 seconds.



Press + to increase the volume.
Press – to decrease the volume.

To turn off the TV
Press POWER on the TV or the Remote Commander again.

1-8. USING CONVENIENT FEATURES



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Muting the Sound — MUTING

Press MUTING.
The display "MUTING" will appear on the screen.

MUTING

To restore the sound
Press MUTING again, or press VOL +.

Keeping the Displays On-Screen — DISPLAY

To display the channel
Press DISPLAY.
All the existing displays appear: channel number, channel caption (if set), MTS mode ("SAP" only), window picture input mode and the current time ("AM" or "PM" disappears after about three seconds).

DISPLAY

To cancel the display
Press DISPLAY again.
The channel display will disappear.

Using the Sleep Timer — SLEEP

The sleep timer turns off the TV automatically after the amount of time you select.

Press SLEEP.
Each time you press SLEEP, the time increments "30", "60", "90" and "OFF" mode appear in sequence.

SLEEP

SLEEP 30
SLEEP 60
SLEEP 90
SLEEP OFF

The SLEEP display appears about one minute before the TV turns off.

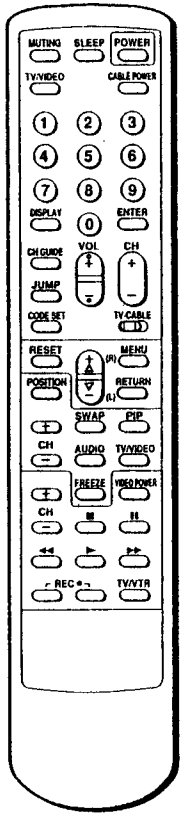
To cancel the setting
Press SLEEP until "OFF" mode appears.
The "SLEEP OFF" display appears for about three seconds.
OR
Turn the TV off.
The sleep timer setting is cancelled.

Switching Quickly Between Two Channels—JUMP

Press JUMP once to recall the channel you were watching previously. Press JUMP again to switch back. Use this feature to keep track of two programs alternately.

JUMP

1-9. USING CLOSED CAPTION (U.S.A. models only)



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1 Press MENU.
The main menu appears.

MENU

```
▸VIDEO
 AUDIO
 TIME
 SET UP
 CLOSED CAPTION
Use ≑ ENTER  Exit MENU
```

2 Press Δ+ or ∇– to select CLOSED CAPTION.
Then press RETURN.
The CLOSED CAPTION screen appears.

(R) (L)

RETURN

```
CLOSED CAPTION
▸CC/TEXT OFF
 CC1
 CC2
 TEXT1
 TEXT2
 >MENU
Use ≑ ENTER  Exit MENU
```

3 Press Δ+ or ∇– to select closed caption mode.

(R) (L)

Select CC1 or CC2 to view Captions. A Caption is a printed version of the dialogue or sound effects of a program. (The mode should be set to CC1 for most programs.)

```
CLOSED CAPTION
 CC/TEXT OFF
▸CC1
 CC2
 TEXT1
 TEXT2
 >MENU
Use ≑ ENTER  Exit MENU
```

Select TEXT1 or TEXT2 to view Text. Text is information that is presented using the half to full television screen. It is usually not related to the program.

```
CLOSED CAPTION
 CC/TEXT OFF
 CC1
 CC2
▸TEXT1
 TEXT2
 >MENU
Use ≑ ENTER  Exit MENU
```

Select CC/TEXT OFF if you do not want to use the CLOSED CAPTION mode.

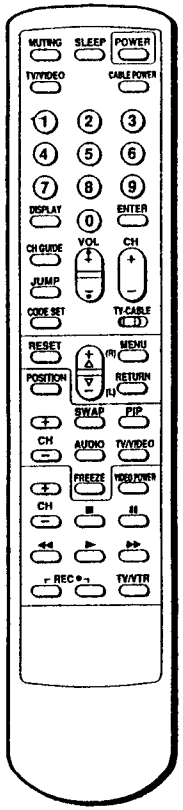
```
CLOSED CAPTION
▸CC/TEXT OFF
 CC1
 CC2
 TEXT1
 TEXT2
 >MENU
Use ≑ ENTER  Exit MENU
```

Press RETURN.
The setting is completed.

RETURN

MC-Service

1-10. WATCHING TWO PICTURES AT ONCE (Picture-in-Picture)



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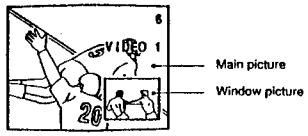
Note

To operate your VCR with the supplied Remote Commander, See "Using the Pre-Programmed Remote Commander", pp. 55–57.

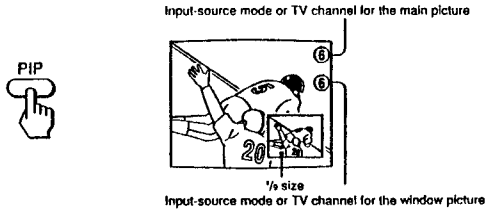
You can watch both the main picture and a window picture simultaneously by using the Picture-in-Picture (PIP) function.
Model KV-32TS46 is equipped with two-tuner PIP, allowing you to watch two TV channels at once.
Other models are equipped with one-tuner PIP. To watch two different TV channels, you must first connect a VCR to the TV, to watch a second TV channel through the VCR tuner. (See"Connecting Other Equipment", pp. 22–27.)



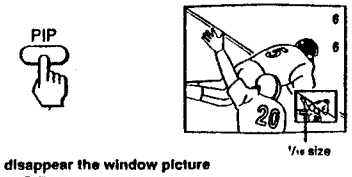
Picture-in-Picture special features
When watching the main picture and a window picture, you can:
- Swap the main and window pictures (SWAP).
- Change the position of the window picture (POSITION).
- Display a still picture as a window (FREEZE).
- Choose the sound from the main or window picture (AUDIO).

Displaying a window picture—PIP

Press PIP to display a window picture



Press PIP again to display a smaller window picture

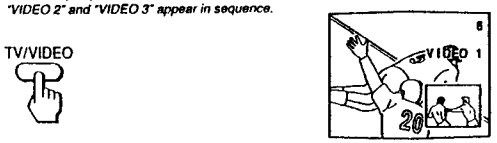


To disappear the window picture
Press PIP once more.

Changing the window picture input mode

1 Press PIP to display a window picture.

2 Press TV/VIDEO in the Picture-in-Picture control area to select the input mode.
Each time you press TV/VIDEO, "TV", "VIDEO 1", "VIDEO 2" and "VIDEO 3" appear in sequence.



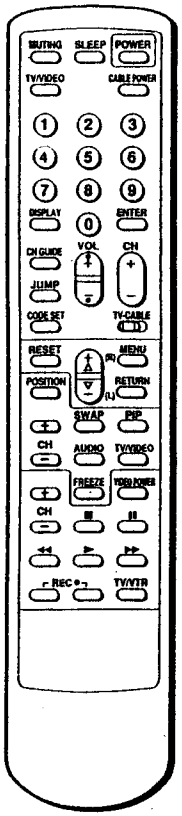
A window picture will appear in the same input mode as the last time you used PIP.

To receive the window picture sound
Press AUDIO.
The ♪ display appears for a few seconds, indicating that the window picture sound is being received.

To restore the main picture sound
Press AUDIO again.

Notes

- If the main picture is not receiving an image, the window picture may be in black and white.
- When you turn PIP on or when you turn the TV on with PIP mode on the window picture will appear at the bottom right of the screen.
- The window picture may be affected by the condition of the main picture.
- The window picture sound is also output from the VARIABLE/FIX AUDIO OUT jacks.



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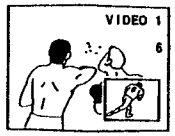
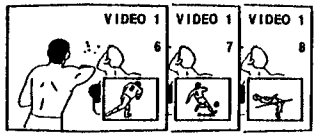
Changing TV channels in the window picture

1 Press PIP to display a window picture.

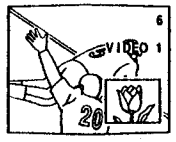


2 Press CH +/– in the PIP control area.

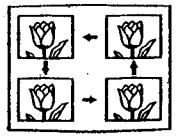


Changing the position of the window picture—POSITION

1 Press PIP to display a window picture.



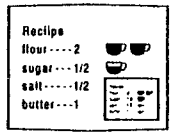
2 Press POSITION.
Each time you press POSITION, the window picture will move counterclockwise on the screen, as illustrated below.



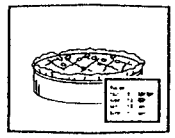
Displaying a still picture — FREEZE

Use the FREEZE function to display a still picture as a window. This function is useful when you want to write down a recipe from a cooking program, a displayed address or a phone number and so on.

1 Press PIP to display a window picture.



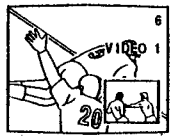
2 Press FREEZE.
The window picture image remains still on the screen.



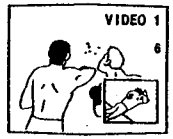
To restore the normal picture
Press FREEZE again.

Swapping the main and window pictures — SWAP

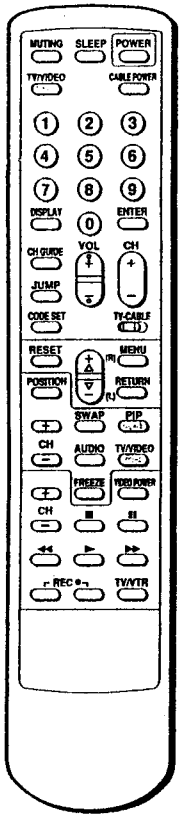
1 Press PIP to display a window picture.



2 Press SWAP.
Each time you press SWAP, the images from the main and window pictures switch places.



MC-Service



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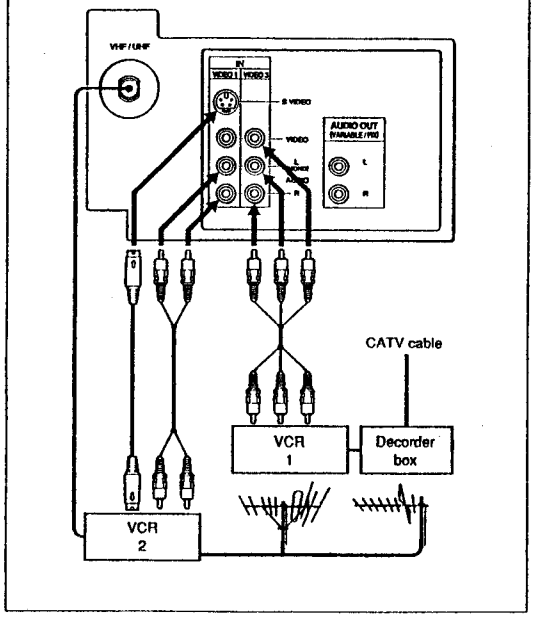
Displaying a pay cable TV channel as a window picture

To display a pay cable TV channel as a window picture, connect your decorder box as illustrated below.

Connection



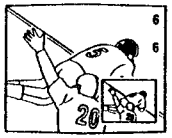
Note

The channels being received through the AUX terminal cannot be displayed as a window picture. (KV-32TS46 only)

After making the connections, turn the cable mode on by following the steps "Turning the Cable Mode On or Off", p. 17. Then continue with steps below.

1 Press PIP to display a window picture.

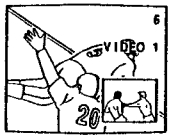
PIP



2 Press TV/VIDEO in the Picture-in-Picture control area to select the input mode.

Each time you press TV/VIDEO, "TV", "VIDEO 1", "VIDEO 2" and "VIDEO 3" appear in sequence.

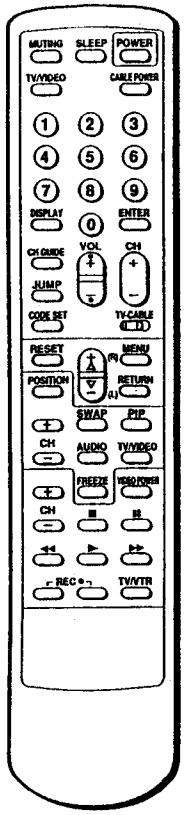
TV/VIDEO



3 Put your VCR on an inactive channel (CH 3 or 4).

4 Change pay cable TV channels with the decorder box.

1-11. USING THE TIMER-ACTIVATED FUNCTIONS



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Setting the Clock—CURRENT TIME SET

Follow these instructions to set the current time. The correct time must be set in order to use the timer-activated functions (ON/OFF TIMER, CHANNEL BLOCK).

EXAMPLE: Set the time to 3:15 PM, Monday.

1 Press MENU.
The main menu appears.

MENU

```
▸VIDEO
 AUDIO
 TIME
 SET UP
 CLOSED CAPTION
Use ◆ ADJ  Exit MENU
```

2 Press Δ+ or ∇– to select TIME.

(R) (L)

```
 VIDEO
 AUDIO
▸TIME
 SET UP
 CLOSED CAPTION
Use ◆ ADJ  Exit MENU
```

Press RETURN.
The TIME menu appears, and the cursor points to "CURRENT TIME SET".

RETURN

```
TIME
▸CURRENT TIME SET
 ON/OFF TIMER
 CHANNEL BLOCK
 >MENU
 __ __:__ __
Use ◆ ADJ  Exit MENU
```

3 Press RETURN.
The CURRENT TIME SET screen appears.

RETURN

```
CURRENT TIME SET
▸__ __:__ __
 >MENU
Use ◆ ADJ  Exit MENU
```

4 Press RETURN again.
"Set the day." appears on the screen.

RETURN

```
CURRENT TIME SET
  SUN 12:00 AM
  >MENU
Set the day.
Use ◆ ADJ  Exit MENU
```

5 Press Δ+ or ∇– to set the day.
Each time you press Δ+ or ∇–, the day changes consecutively.

(R) (L)

Press RETURN.
"Set the time." appears on the screen.

RETURN

```
CURRENT TIME SET
  MON 12:00 AM
  >MENU
Set the time.
Use ◆ ADJ  Exit MENU
```

6 Press Δ+ or ∇– to set the hour.
Each time you press Δ+ or ∇–, the hour changes starting with "12:00 AM."

(R) (L)

Press RETURN.

RETURN

```
CURRENT TIME SET
  MON  3:00 PM
  >MENU
Set the time.
Use ◆ ADJ  Exit MENU
```

7 Press Δ+ or ∇– to set the minutes.
Each time you press Δ+ or ∇–, the minutes change in sequence.

(R) (L)

Press RETURN.
The setting is completed, and the clock starts.

RETURN

```
CURRENT TIME SET
  MON  3:15 PM
  >MENU
Set the time.
Use ◆ ADJ  Exit MENU
```

To reset the time
Press RESET while in the CURRENT TIME screen, and repeat steps 4–7.

To display the time
Press DISPLAY.

To return to the normal screen
Press MENU.

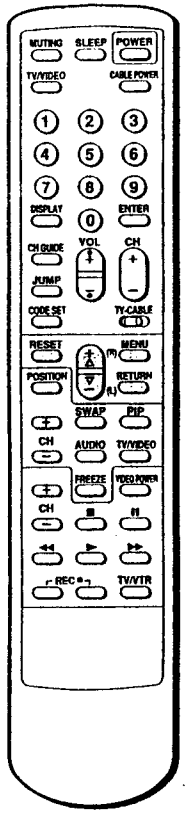
Notes

- The internal clock of this TV operates on a 12-hour cycle. If a 24-hour cycle number (for instance, 13:00) is entered, it will be cleared when you press RETURN.

  12:00 AM stands for midnight.
  12:00 PM stands for noon.

- All the settings including CURRENT TIME SET will be erased if you unplug the TV or a power failure occurs. Reset the current time by following steps 1–7.

MC-Service



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Setting the ON/OFF TIMER

With this function you can set your favorite program to appear on the screen at the time that you set.

EXAMPLE: Set the timer to turn on the TV every Monday through Friday at 3:15 PM for 2 hours, on channel 21.

1 Press MENU.
The main menu appears.

MENU

```
▸VIDEO
 AUDIO
 TIME
 SET UP
 CLOSED CAPTION
Use ♦ ENTER Exit RTN
```

2 Press Δ+ or ∇– to select TIME.
Then press RETURN.
The TIME menu appears.

(R) (L) RETURN

```
TIME
▸CURRENT TIME SET
 ON/OFF TIMER
 CHANNEL BLOCK
 >MENU
 MON  3:15 PM
Use ♦ ENTER Exit RTN
```

3 Press Δ+ or ∇– to select ON/OFF TIMER.
Then press RETURN.
The ON/OFF TIMER screen appears.

(R) (L) RETURN

```
ON/OFF TIMER
▸EVERY SUN-SAT
 12:00M _h CH___
 >MENU
Use ♦ ENTER Exit RTN
```

Note

If the ON/OFF TIMER display appears in black, the current time has not been set and you cannot select ON/OFF TIMER. To set the clock, see "Setting the Clock—CURRENT TIME SET", pp. 44–45.

4 Press RETURN again.
"Set the day." appears on the screen.

RETURN

```
ON/OFF TIMER
 EVERY SUN-SAT
 12:00M _h CH___
 >MENU
Set the day.
Use ♦ ENTER Exit RTN
```

5 Press Δ+ or ∇– to set the day.
Each time you press Δ+ or ∇–, the days of the week change as shown in Fig. 1.
Then press RETURN.
"Set the time." appears on the screen.

(R) (L) RETURN

```
ON/OFF TIMER
 EVERY MON-FRY
 12:00M _h CH___
 >MENU
Set the time.
Use ♦ ENTER Exit RTN
```

6 Press Δ+ or ∇– to set the hour that you want the TIMER to start.
Each time you press Δ+ or ∇–, the hour changes in sequence.
Then press RETURN.

(R) (L) RETURN

```
ON/OFF TIMER
 EVERY MON-FRY
 3:00M _h CH___
 >MENU
Set the time.
Use ♦ ENTER Exit RTN
```

7 Press Δ+ or ∇– to set the minutes.
Each time you press Δ+ or ∇–, the minutes change in sequence.
Then press RETURN.
"Set the duration." appears on the screen.

(R) (L) RETURN

```
ON/OFF TIMER
 EVERY MON-FRY
 3:15M _h CH___
 >MENU
Set the duration.
Use ♦ ENTER Exit RTN
```

8 Press Δ+ or ∇– to set the duration of time.
Each time you press Δ+ or ∇–, the duration changes from "1" to "6" in sequence.
Then press RETURN.
"Select the channel" appears on the screen.

(R) (L) RETURN

```
ON/OFF TIMER
 EVERY MON-FRY
 3:15M 2h CH___
 >MENU
Select the channel
Use ♦ ENTER Exit RTN
```

9 Press Δ+ or ∇– to set the channel that you want the TV to tune in.
Each time you press Δ+ or ∇–, the channel number changes from 1 to 125 in sequence.

(R) (L)

```
ON/OFF TIMER
 EVERY MON-FRY
 3:15M 2h CH 21
 >MENU
Select the channel
Use ♦ ENTER Exit RTN
```

Press RETURN.
The setting is completed, and the TIMER indicator on the front of the TV lights up.

RETURN

```
ON/OFF TIMER
▸EVERY MON-FRY
 3:15M 2h CH 21
 >MENU
Use ♦ ENTER Exit RTN
```

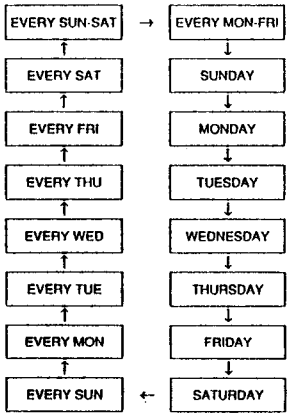
To clear the ON/OFF TIMER setting
Press RESET while in the ON/OFF TIMER screen.

To return to the normal screen
Press MENU.

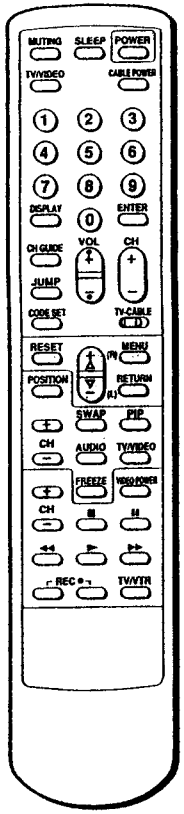
Notes

- While the TIMER is set, the TIMER indicator on the TV is on.
- One minute before the timer goes off, the "TV will turn off" display will appear on the screen.
- All the settings including ON/OFF TIMER will be erased if you unplug the TV or a power failure occurs. Reset the ON/OFF TIMER by following steps 1-9.
- If you have not set the clock correctly, the ON/OFF TIMER will not operate at the proper time. To set the clock, see "Setting the Clock–CURRENT TIME SET", pp. 44–45.

Fig. 1
Selecting the day(s) of the week
When you press Δ+, the days of the week appear in the following order.



(∇–: reverse order)



RM-Y118

Setting CHANNEL BLOCK

Use this function to block a channel from appearing on the screen during the time you specify. You can use this function to prevent children from watching undesirable programs.

EXAMPLE: Set CHANNEL BLOCK every Sunday at 8:45 PM for one hour, on channel 38.

1 Press MENU.
The main menu appears.

MENU

```
▸VIDEO
 AUDIO
 TIME
 SET UP
 CLOSED CAPTION
Use ♦ ENTER Exit EXIT
```

2 Press Δ+ or ∇– to select TIME.
Then press RETURN.
The TIME menu appears.

(R) (L) RETURN

```
TIME
▸CURRENT TIME SET
 ON/OFF TIMER
 CHANNEL BLOCK
 >MENU
 MON  3:15 PM
Use ♦ ENTER Exit EXIT
```

3 Press Δ+ or ∇– to select CHANNEL BLOCK.
Then press RETURN.
The CHANNEL BLOCK screen appears.

(R) (L) RETURN

```
CHANNEL BLOCK
▸EVERY SUN-SAT
 12:00AM _h CH___
 >MENU
Use ♦ ENTER Exit EXIT
```

Note

If the CHANNEL BLOCK display appears in black, the current time has not been set and you cannot select CHANNEL BLOCK. To set the clock, see "Setting the Clock—CURRENT TIME SET", pp. 44–45.

4 Press RETURN again.
"Set the day." appears on the screen.

RETURN

```
CHANNEL BLOCK
 EVERY SUN-SAT
 12:00AM _h CH___
 >MENU
Set the day.
Use ♦ ENTER Exit EXIT
```

5 Press Δ+ or ∇– to set the day.
Each time you press Δ+ or ∇–, the days of the week change as shown in Fig. 1.(See p. 47.)
Then press RETURN.
"Set the time." appears on the screen.

(R) (L) RETURN

```
CHANNEL BLOCK
 SUNDAY
 12:00AM _h CH___
 >MENU
Set the time.
Use ♦ ENTER Exit EXIT
```

6 Press Δ+ or ∇– to set the hour.
Each time you press Δ+ or ∇–, the hour changes in sequence.
Then press RETURN.

(R) (L) RETURN

```
CHANNEL BLOCK
 SUNDAY
 8:00PM _h CH___
 >MENU
Set the time.
Use ♦ ENTER Exit EXIT
```

7 Press Δ+ or ∇– to set the minutes.
Each time you press Δ+ or ∇–, the minutes change in sequence.
Then press RETURN.
"Set the duration." appears on the screen.

(R) (L) RETURN

```
CHANNEL BLOCK
 SUNDAY
 8:45PM _h CH___
 >MENU
Set the duration.
Use ♦ ENTER Exit EXIT
```

8 Press Δ+ or ∇– to set the duration of time that you want the TV remain blocked.
Each time you press Δ+ or ∇–, the duration changes from 1 to 6 in sequence.
Then press RETURN.
"Select the channel" appears on the screen.

(R) (L) RETURN

```
CHANNEL BLOCK
 SUNDAY
 8:45PM 1h CH___
 >MENU
Select the channel
Use ♦ ENTER Exit EXIT
```

9 Press Δ+ or ∇– to set the channel that you want to block.
Each time you press Δ+ or ∇–, the channel number changes from 1 to 125 in sequence.

(R) (L)

```
CHANNEL BLOCK
 SUNDAY
 8:45PM 1h CH 38
 >MENU
Select the channel
Use ♦ ENTER Exit EXIT
```

Press RETURN.
The setting is completed.

RETURN

```
CHANNEL BLOCK
▸SUNDAY
 8:45PM 1h CH 38
 >MENU
Use ♦ ENTER Exit EXIT
```

If you select a channel which has been blocked, the message of "BLOCKED" appears.

```
BLOCKED
```

To clear the BLOCK setting
Press RESET while in the CHANNEL BLOCK screen.

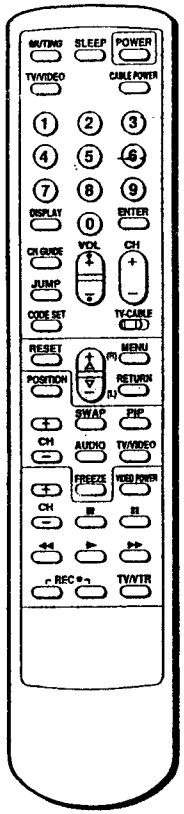
To return to the normal screen
Press MENU.

Notes

- If you set a new CHANNEL BLOCK by following steps 1-9, the original setting will be erased.
- If you have not set the clock correctly, CHANNEL BLOCK will not operate at the proper time. To set the clock, see "Setting the Clock—CURRENT TIME SET", pp. 44–45.

MC-Service

1-12. CUSTOMIZING THE SCREEN DISPLAY



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Setting Channel Captions — CH CAPTION

Use this feature to caption up to 12 channel number displays with the matching channel call letters.

EXAMPLE: Caption channel 20 with ESPN at the caption position number 4.

1 Press MENU.
The main menu appears.

MENU

```
▸VIDEO
 AUDIO
 TIME
 SET UP
 CLOSED CAPTION
Use ♦ ENTER Exit EXIT
```

2 Press Δ+ or ∇– to select SET UP.
Then press RETURN.
The SET UP menu appears.

RETURN

```
SET UP
▸CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION/GUIDE
 S VIDEO
 VIDEO LABEL
>MENU
```

3 Press Δ+ or ∇– to select CH CAPTION/GUIDE.
Then press RETURN.
The CH CAPTION/GUIDE screen appears.

RETURN

```
CH CAPTION/GUIDE
① ② ③ ▸ ---
④ ⑤ ⑥   ---
⑦ ⑧ ⑨ >
DISP ⓪ EXIT
Use ♦ ENTER Exit EXIT
```

Note

If the CH CAPTION display appears in black, the TV is in video mode and you cannot select CH CAPTION/GUIDE. Press TV/VIDEO to change to TV mode.

4 Press RETURN again.
"Select a position." appears on the screen.

RETURN

```
CH CAPTION/GUIDE
① ② ③   ---
④ ⑤ ⑥   ---
⑦ ⑧ ⑨ >
DISP ⓪ EXIT
Select a position.
Use ♦ ENTER Exit EXIT
```

5 Press Δ+ or ∇– to select a caption position number.
Each time you press Δ+ or ∇–, the caption position number is marked in sequence.
Then press RETURN.
"Select the channel" appears on the screen.

RETURN


```
CH CAPTION/GUIDE
① ② ③   ---
④ ⑤ ⑥   ---
⑦ ⑧ ⑨ >
DISP ⓪ EXIT
Select the channel
Use ♦ ENTER Exit EXIT
```

6 Press Δ+ or ∇– to select the channel you want to caption.
Each time you press Δ+ or ∇–, the channel number changes from 1 to 125.
Then press RETURN.
"Select the letter." appears on the screen.

RETURN


```
CH CAPTION/GUIDE
① ② ③   20
④ ⑤ ⑥   ---
⑦ ⑧ ⑨ >
DISP ⓪ EXIT
Select the letter.
Use ♦ ENTER Exit EXIT
```

7 Press Δ+ or ∇– to select the first letter.
Each time you press Δ+ or ∇–, "0-9", "A-Z", "&", "/", "–" and "_(blank space)" appear in sequence.
Then press RETURN.

RETURN


```
CH CAPTION/GUIDE
① ② ③   20
④ ⑤ ⑥   E---
⑦ ⑧ ⑨ >
DISP ⓪ EXIT
Select the letter.
Use ♦ ENTER Exit EXIT
```

8 Repeat step 7 to select each remaining letter.
(For a 3-letter caption, leave a space by pressing RETURN only.)

RETURN


```
CH CAPTION/GUIDE
① ② ③   20
④ ⑤ ⑥   ESPN
⑦ ⑧ ⑨ >
DISP ⓪ EXIT
Select the letter.
Use ♦ ENTER Exit EXIT
```

9 Press RETURN.
The setting is completed.

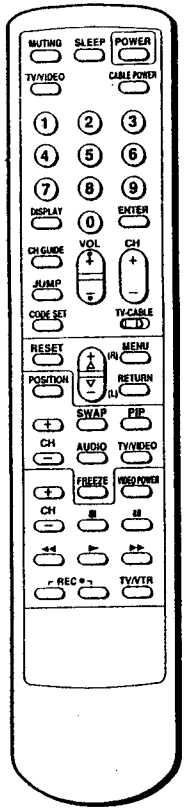
RETURN

```
CH CAPTION/GUIDE
① ② ③ ▸ ---
④ ⑤ ⑥   ---
⑦ ⑧ ⑨ >
DISP ⓪ EXIT
Use ♦ ENTER Exit EXIT
```

To caption other channels
Repeat steps 4-9.

To erase unneeded captions
Call the caption setting screen by following steps 1–5, and press RESET.

To return to the normal screen
Press MENU.



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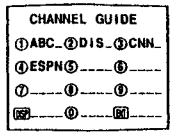
Viewing the Captioned Channels — CH GUIDE

Use this feature to display the captions you set, and to select a channel directory for viewing.

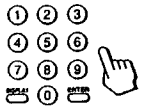
1 Press CH GUIDE.
A directory appears, corresponding to the directory keys on the Remote Commander.

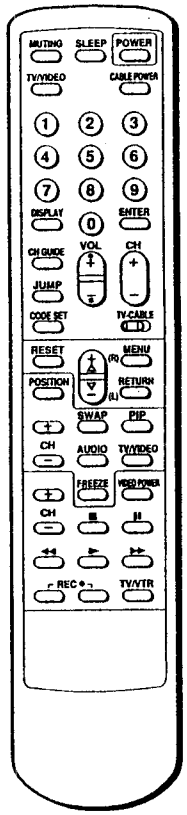
CH GUIDE



To cancel the CHANNEL GUIDE screen
Press CH GUIDE again.

2 Press the directory key of the channel you want to watch.





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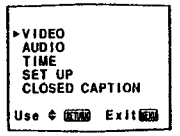
Setting VIDEO LABEL (except for KV-27TS29/2970RS)

Use this feature to label each input mode in order to identify the equipment connected to each input terminal.

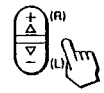
EXAMPLE: Label VIDEO 1 IN as VHS.

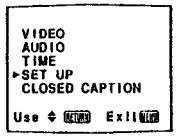
1 Press MENU.
The main menu appears.

MENU



2 Press Δ+ or ∇– to select SET UP.

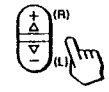


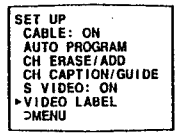


Press RETURN.
The SET UP menu appears.

RETURN

3 Press Δ+ or ∇– to select VIDEO LABEL.





Press RETURN.
The VIDEO LABEL screen appears.

RETURN

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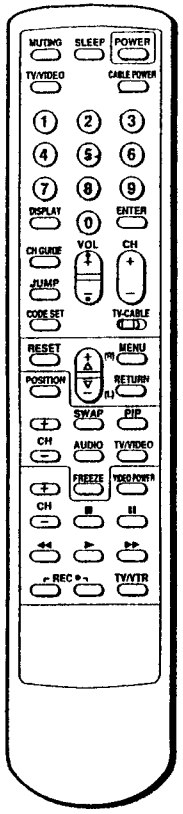

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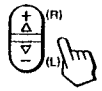
To return to the normal screen
Press MENU.

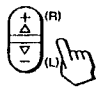
4 Press Δ+ or ∇– to select the input mode you want to label.




```
VIDEO LABEL
▸VIDEO1: VIDEO1
 VIDEO2: VIDEO2
 VIDEO3: VIDEO3
 >MENU
Use ◆ ENTER Exit RETURN
```

Press RETURN.

5 Press Δ+ or ∇– to select VHS.




```
VIDEO LABEL
 VIDEO1: VIDEO1
 VIDEO2: VIDEO2
 VIDEO3: VIDEO3
 >MENU
Use ◆ ENTER Exit RETURN
```

Each time you press Δ+, the label changes:

VIDEO 1
VIDEO 1 → S VIDEO → BETA → 8 mm → VHS → LD

VIDEO 2
VIDEO 2 → BETA → 8 mm → VHS → LD

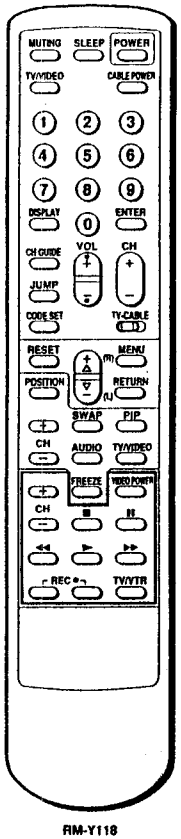
VIDEO 3
VIDEO 3 → BETA → 8 mm → VHS → LD

(∇–: reverse order)

Press RETURN.

```
VIDEO LABEL
▸VIDEO1: VHS
 VIDEO2: VIDEO2
 VIDEO3: VIDEO3
 >MENU
Use ◆ ENTER Exit RETURN
```

To label other input modes
Repeat steps 4–5.



RM-Y118

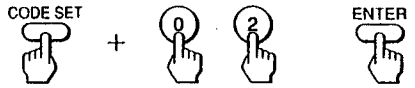
1-13. USING THE PRE-PROGRAMMED REMOTE COMMANDER

You can operate your video equipment and cable converter box that has an infrared remote detector with this supplied pre-programmed Remote Commander.

Operating Sony or non-Sony Video Equipment—Pre-Programmed Function

With the supplied Remote Commander, you can operate a Sony video cassette recorder (Beta, 8 mm, VHS) or a multi disc player as well as most non-Sony video equipment connected to your TV by following the steps below.

1 While pressing CODE SET, press 0 - 9 to enter the manufacturer's code number (see chart on p. 56). For example, to operate a Sony 8 mm VCR, press 0, 2 and ENTER.



2 Use the video operating buttons on the Remote Commander to operate the video equipment.

Operating a VCR

To turn on or off	Press VIDEO POWER.
To change channels (when watching TV programs through the VCR's tuner)	Press CH +/–.
To record	Press ● (2 buttons simultaneously).
To play	Press ▶.
To stop	Press ■.
To fast forward	Press ▶▶.
To rewind the tape	Press ◀◀.
To pause	Press II.
To search the picture forward and backward	Press ▶▶ or ◀◀ during playback.

Operating a Video Disc Player

To play	Press ▶.
To stop	Press ■.
To pause	Press II. *To resume normal playback, press again.* •This function is effective only for CAV (standard-play disc). With CLV (extended-play disc), the TV will go into the standby mode if II is pressed.
To search the picture forward and backward	Keep pressing ▶▶ or ◀◀ during playback. *To resume normal playback, release the button.*

Manufactures and Code Numbers (VCR/video disc player)

Manufacturer	Code number
SONY	01, 02, 03, 04
CANON	05
EMERSON	22, 30, 33
FISHER	10, 11, 12, 15
FUNAI	29
GENERAL ELECTRIC	05, 08
GOLDSTAR	25
HITACHI	07, 08
JVC	16
MAGNAVOX	05, 06, 09
MITSUBISHI	18, 19, 26, 27
MULTITECH	29
NEC	16, 23, 31
PANASONIC	05, 06
PHILCO	05, 06
PHILIPS	05, 06, 09
QUASAR	05, 06
RCA	07, 08
SAMSUNG	24, 32
SANYO	11, 15
SCOTT	21
SHARP	13, 14
SHINTOM	34
SYLVANIA	05, 06, 09
SYMPHONIC	29
TEKNIKA	28, 29
TOSHIBA	20, 21
TOTE VISION	25
ZENITH	17

The code numbers for Sony equipment are assigned as follows:

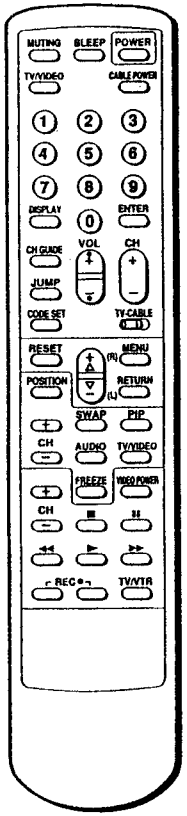
01 ..... Beta, ED Beta VCR
02 ..... 8 mm VCR
03 ..... VHS VCR
04 ..... Video disc player

Notes

- If more than one code number is listed for manufacturers other than Sony, try entering them one by one, until you come to the correct code for your equipment.
- If the video equipment does not have a certain function, the corresponding button on this Remote Commander will not operate.
- In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied Remote Commander. This is because your equipment may use a code that is not provided with this Remote Commander. In this case, please use the equipment's own remote control unit.

CAUTION

When you remove the batteries from the Remote Commander, all the settings will revert to the Sony Beta setting. Reset the codes by following the steps on p. 55.



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Manufactures and Code Numbers (cable box)

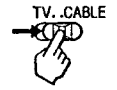
MANUFACTURER	CODE
JERROLD	60, 61, 62, 63, 64, 65
PIONEER	69, 70
SCIENTIFIC ATLANTA	66, 67
TOCOM	71, 72
ZENITH	68

Operating a Cable Converter Box

Follow these instructions to set the manufacturer's code which will enable you to operate a connected cable converter box with the pre-programmed Remote Commander.

EXAMPLE: Operate a connected Zenith cable converter box.

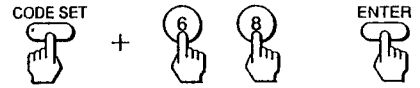
1 Set the TV/CABLE selector to CABLE.



Notes

- If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some rare cases, your equipment may use a code that is not provided with this Remote Commander and you may not be able to operate your cable converter box with the supplied Remote Commander. In this case, use the equipment's own remote control unit.

2 While pressing CODE SET, press 6 and 8 (Zenith's code number -see chart below) and ENTER.

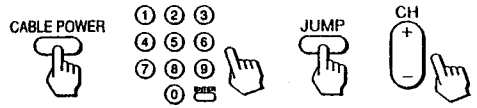


A long beep sounds, indicating that the code has been set.

Note

If you press a wrong code or if the code has not been set, four short beeps sound. Repeat step 2 to set the code.

3 Use CABLE POWER and the TV control buttons (0 – 9, ENTER, JUMP and CH +/–) to operate the cable converter box.



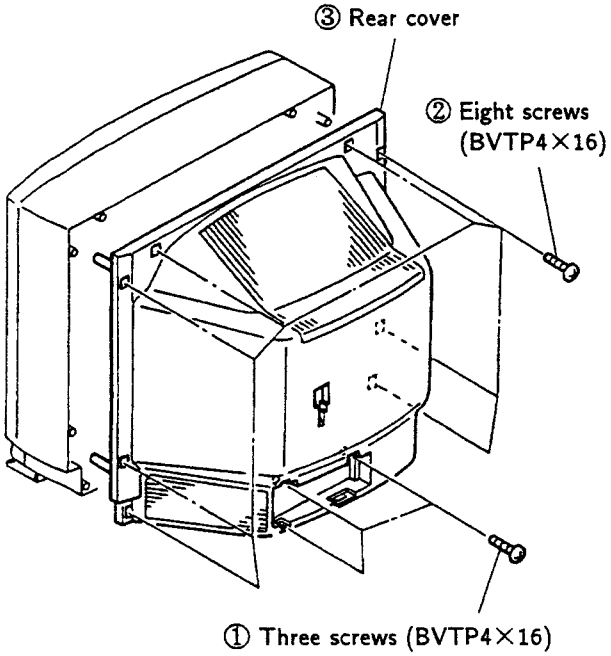
To operate the TV
Set the TV/CABLE selector to TV, then use the TV control buttons to control the TV.

For more details on operating the cable box
Refer to the operating instructions that come with the cable box.

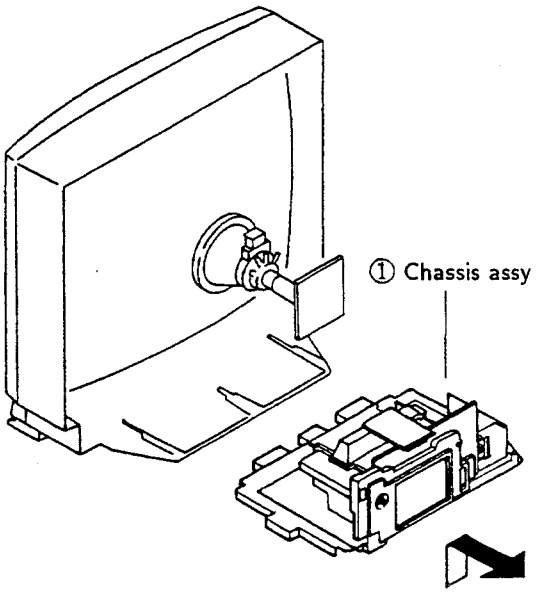
MC-Service

SECTION 2
DISASSEMBLY

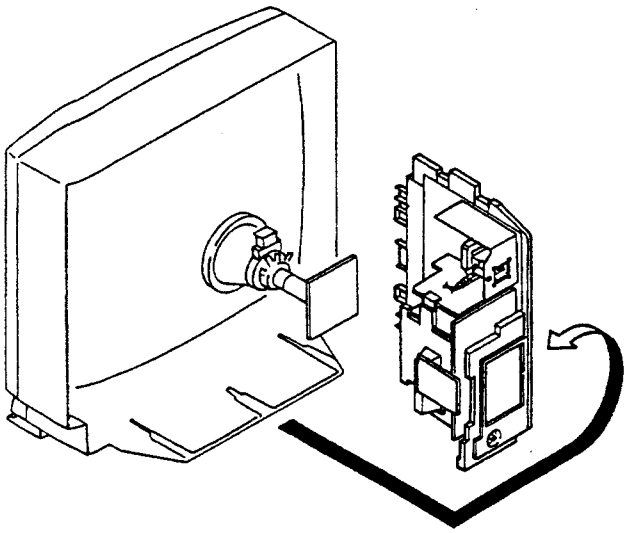
2-1. REAR COVER REMOVAL



2-2. CHASSIS ASSY REMOVAL

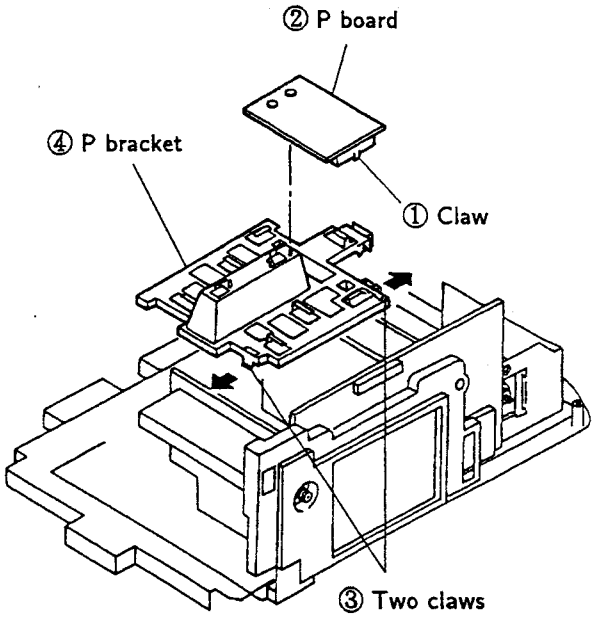


2-3. SERVICE POSITION

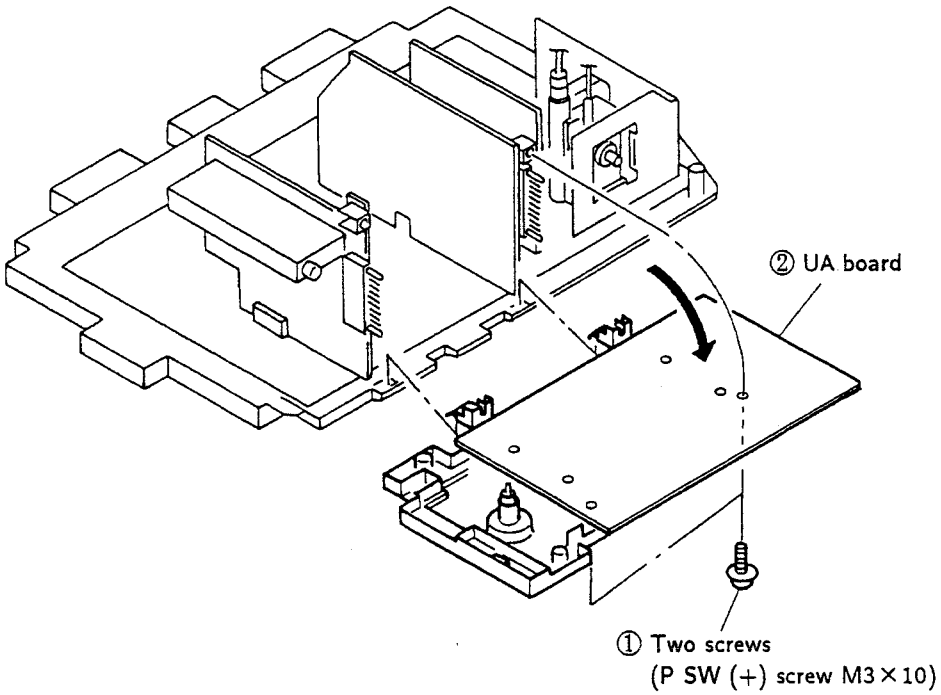


2-4. P BOARD AND P BRACKET REMOVAL

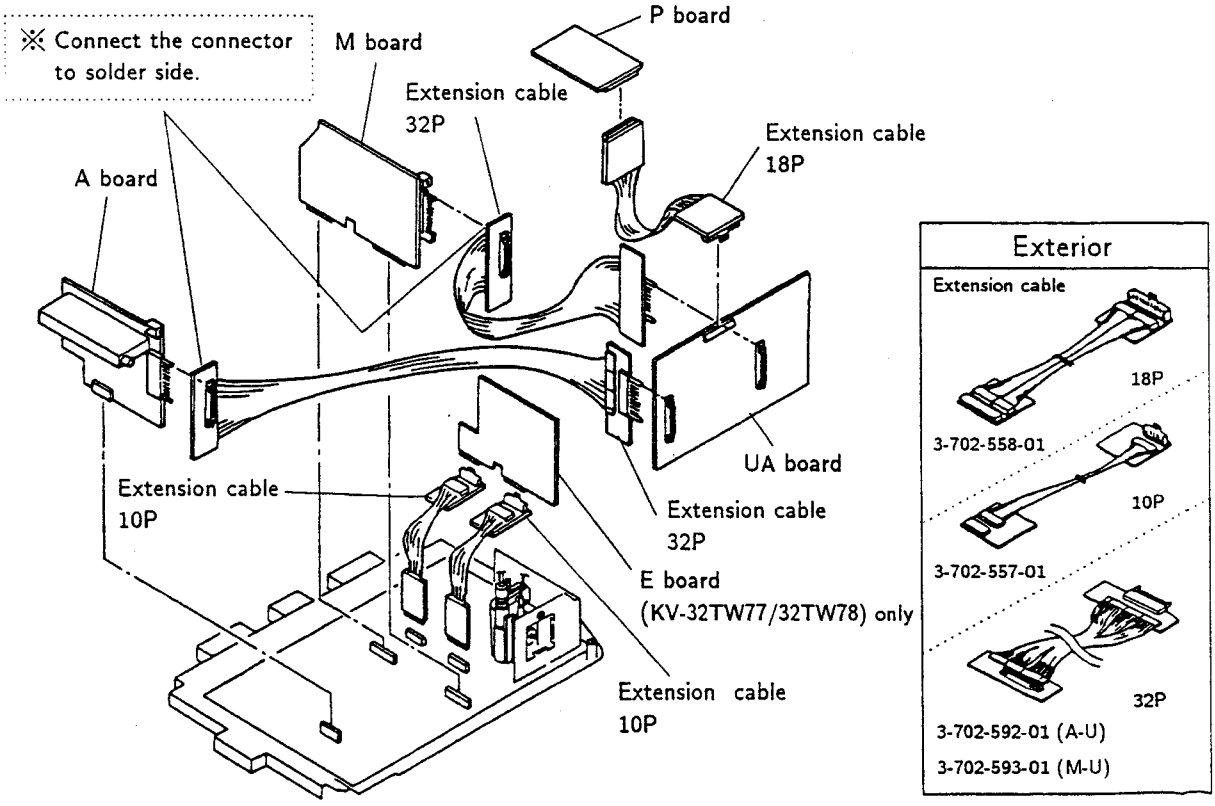
(KV-32TS46 (UC/CND)/32TS36 (US/CND)
/27TS36 (US/CND) only)



2-5. UA BOARD REMOVAL



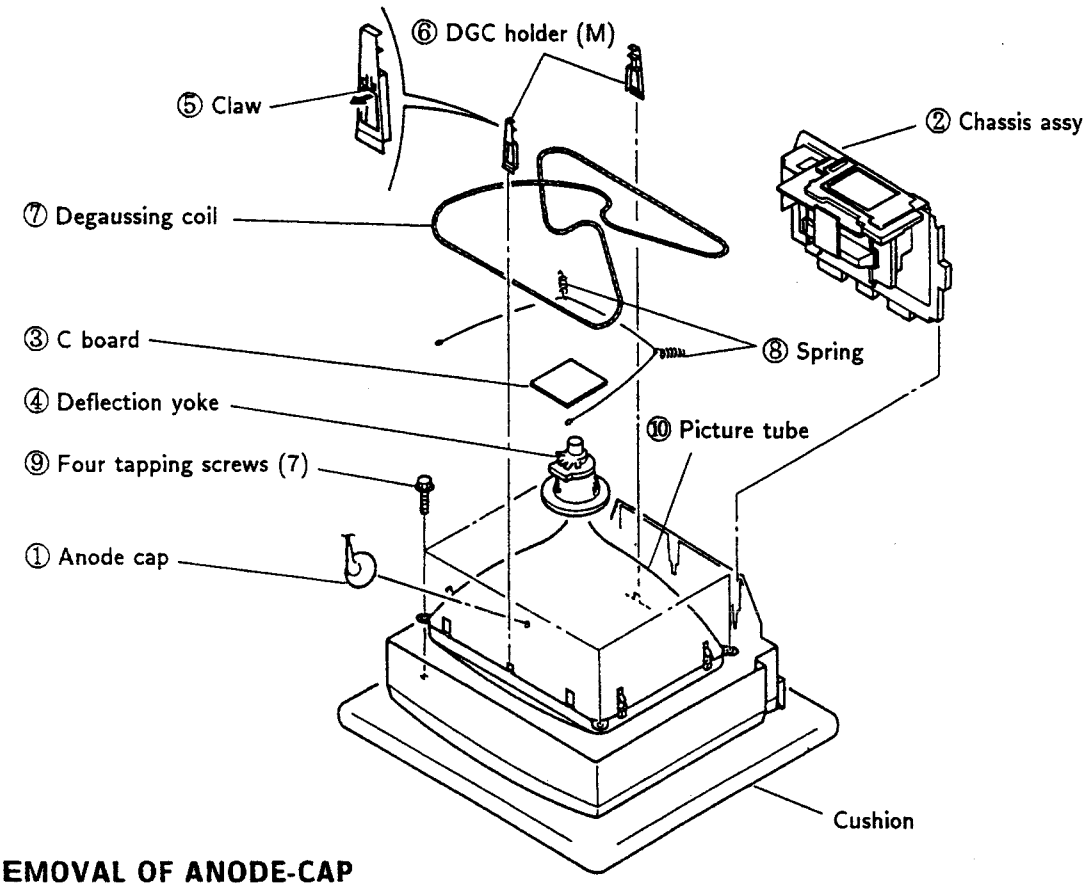
2-6. EXTENSION CABLE



MC-Service

2-7. PICTURE TUBE REMOVAL (1)

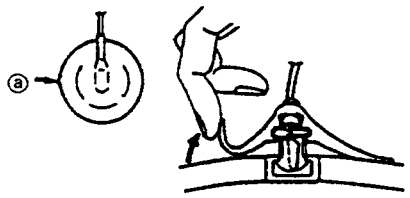
(KV-27TS36 (US/CND)/27TS32/27TS29 (US/CND) only)



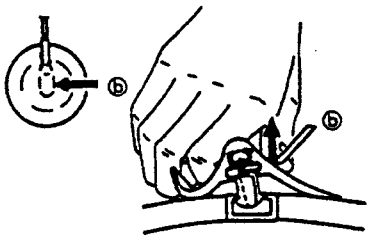
· REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT chield or carbon painted on the CRT, after removing the anode.

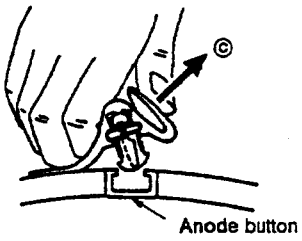
· REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



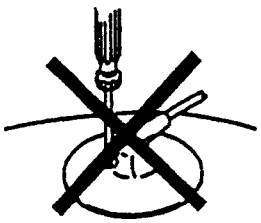
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

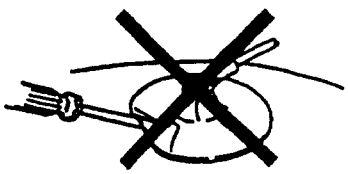
· HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

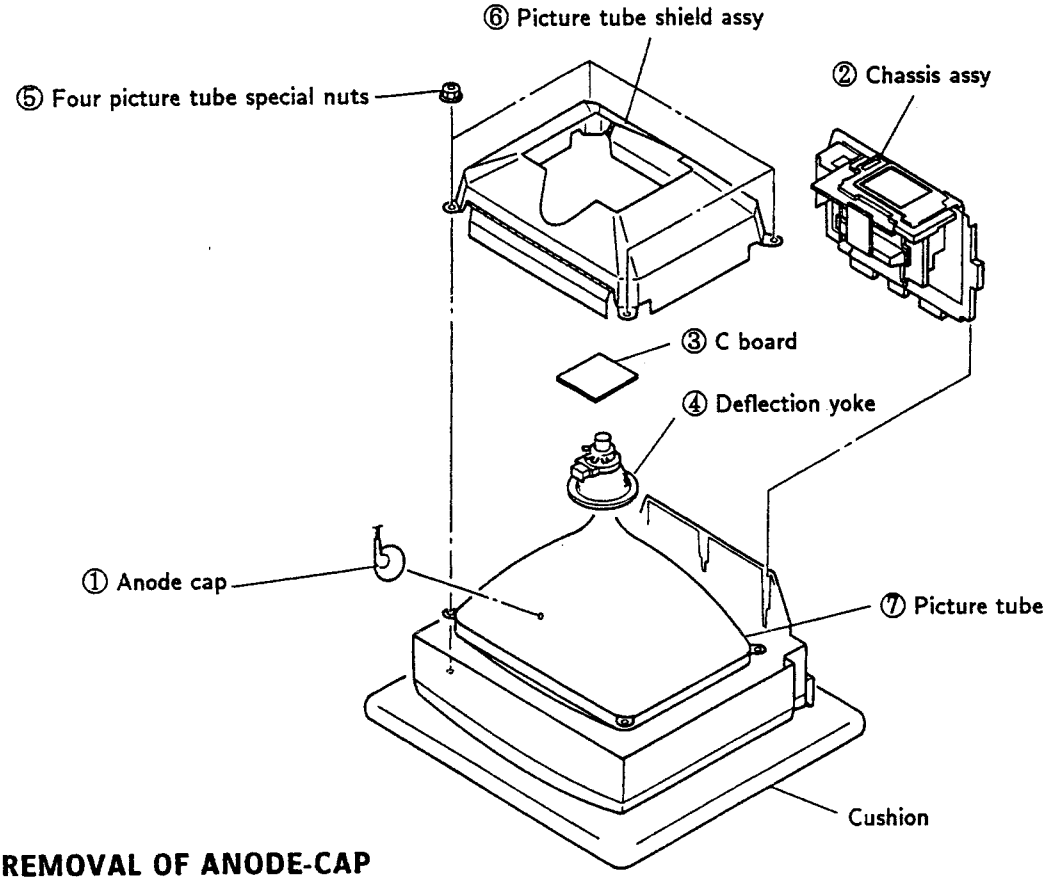
③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





2-7. PICTURE TUBE REMOVAL (2)

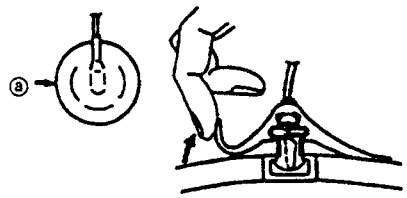
(KV-32TS46 (US/CND)/32TS36 (US/CND) only)



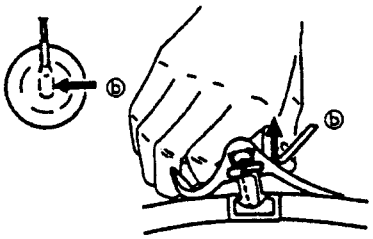
· REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT chield or carbon painted on the CRT, after removing the anode.

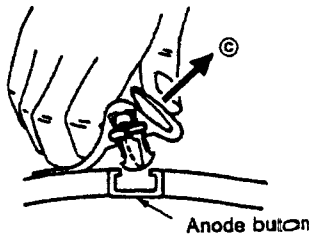
· REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

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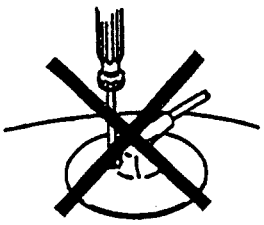
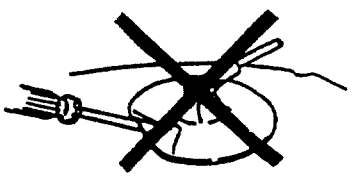
The shatter-hook terminal will stick out or hurt the rubber.





MC-Service

2-8. REPAIR OF CHIP COMPONENT CIRCUIT BOARD

2-8-1. POINTS OF COMPONENT REMOVAL

Handing of blower type soldering iron

If hot blast is too strong or applied from a slanting direction, small components and solder near the component being removed can be blown off. Do not use blower type without temperature control.

2-8-2. NOTES ON SOLDERING FOR CHIP COMPONENTS

1) During soldering a chip component, if a soldering iron is applied for a long time, the heat may damage the component or cause pattern peeling.
2) Do not reuse a removed component. The characteristics of such a component may deteriorate.
3) Use wire solder containing silver (ϕ 0.3 or ϕ 0.6). (The pin electrodes of the laminated chip capacitor are silver +palladium, so if wire solder which does not contain silver is used, the silver of the pin electrode will be sucked into the solder.)

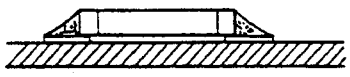
2-8-3. REMOVAL AND MOUNTING OF COMPONENTS

Chip resistor and chip capacitor

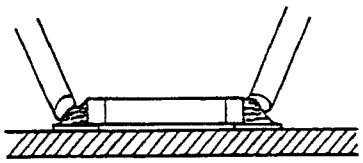
REMOVAL

• Using two soldering irons

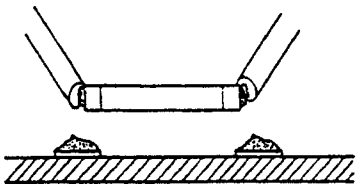
1) Mounted state



2)Melt the solder.

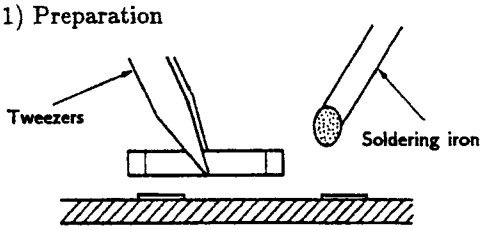


3)Remove the component.



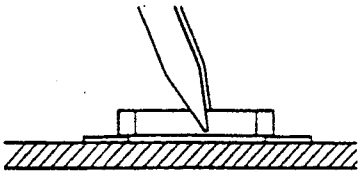
SOLDERING

1) Preparation

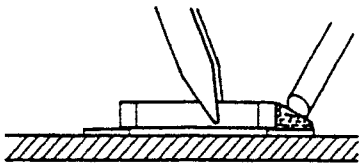


2) Location

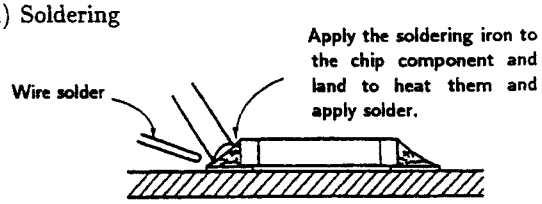
Be careful not to misposition.



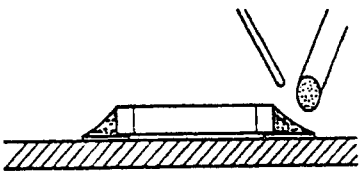
3) Tack soldering and flux application



4) Soldering



5) Soldering (Fix the fillet.)



6) Visual inspection

Check for the following defects :

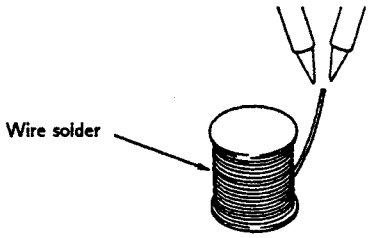
- No-soldered part
- Bridge (to other components or lands)
- Mispositioning
- Other defects

2-8-4. MINI-TRANSISTOR

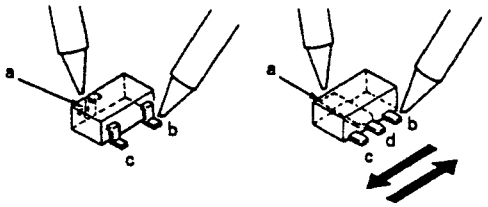
REMOVAL

• Using two soldering irons

1) Put a little solder on the tip of two soldering irons.



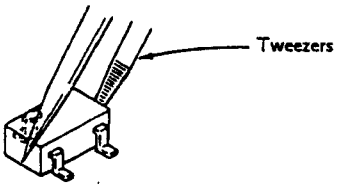
2) Apply the tip of one soldering iron to the point "a" and the other to the points "b" → "c" (or "b" → "d" → "c") and move the component in the directions indicated by arrows in the figure to remove it.



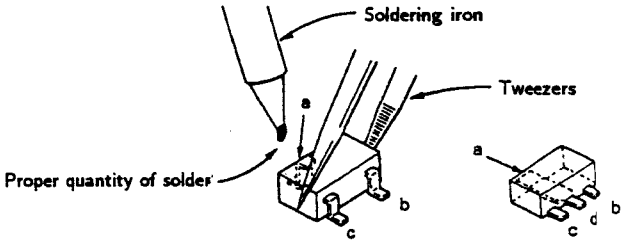
MOUNTING

1) Apply a little flux to the land with a brush.

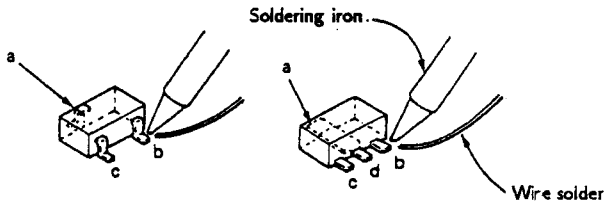
2) Place the component in position using tweezers.



3) Put a little solder on the tip of the soldering iron and solder the point "a" to fix the component.



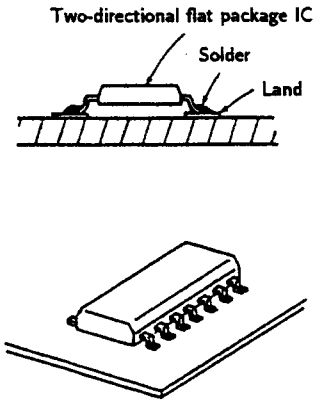
4) Bring the tip of the soldering iron and the wire solder close to the point to be soldered. Solder the points "b" → "c" (or "b" → "d" → "c") in order.



MC-Service

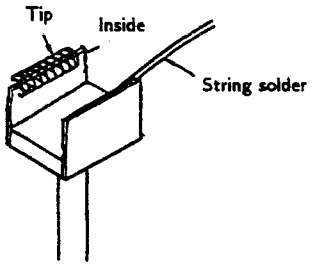
2-8-5. TWO-DIRECTIONAL FLAT PACKAGE IC

MOUNT CONDITION

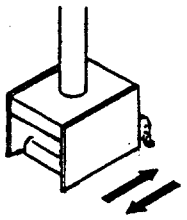


REMOVAL

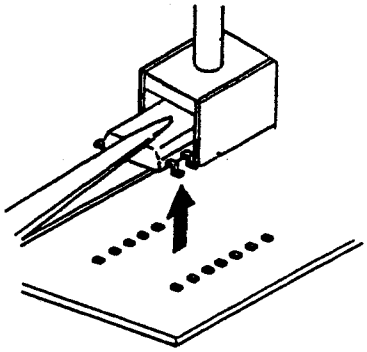
1) Apply some solder on the inside and the tip of the iron tip jig.



2) Place the iron tip jig over the IC, and move the jig to and fro as shown in the figure.

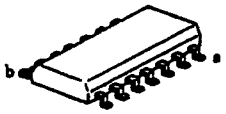


3) When the solder melts, lift the IC with a pair of tweezers and remove.

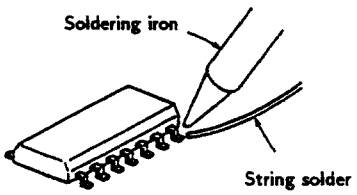


INSTALLATION

1) Place the two-directional flat package IC at the appointed position, solder pins a and b on the diagonal, and fasten it.

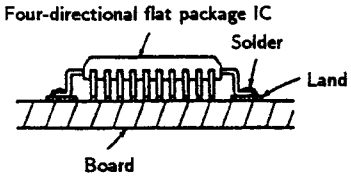


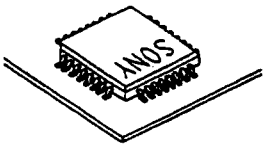
2) Solder the remaining pins with the soldering iron.



2-8-6. FOUR-DIRECTIONAL FLAT PACKAGE IC

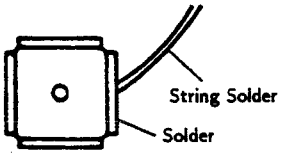
MOUNT CONDITION



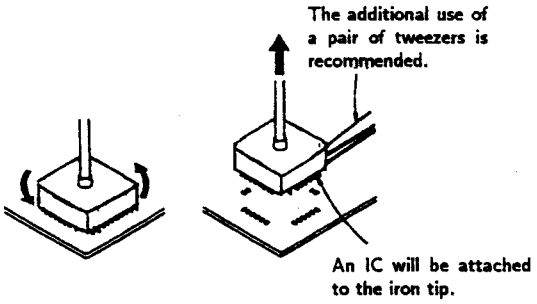


REMOVAL

1) Apply solder on the tip of the iron tip jig.



2) Place the iron tip jig over the IC, wait about two to three seconds, rotate the iron slightly and lift it up.

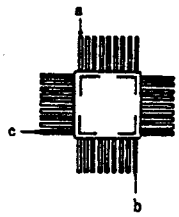


Note : For flat ICs of above 52P, the IC may not be completely attracted when the iron tip jig is lifted up. In these cases, use a pair of tweezers to remove.

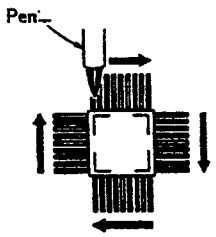
INSTALLATION

1) Place the four-directional flat package IC at the appointed position.

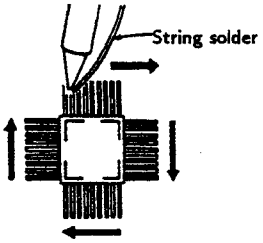
2) Apply a slight amount of solder on the iron tip, and solder the three sections in the order of a → b → c, and fix.



3) Apply a slight amount of flux with a pen on all four directions.

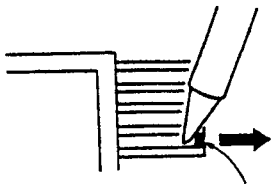


4) Apply solder on the iron tip and the string solder, and slide and solder in the directions of the arrows.



MC-Service

Note : 1) After soldering, if there are bridged sections, correct by sliding the soldering iron in the direction of the arrow.



Bridged section

If the bridges cannot be corrected using the above method, apply some flux with a pen and try again.

2) Soldering can be carried out more easily by sliding the iron tip near the tip of the IC leg. (Fig. A)

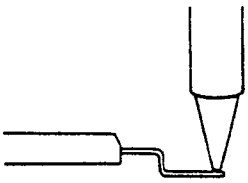


Fig. A

Be careful not to slide the bent sections of the leg as shown in Fig. B as soldering bridges will be formed.

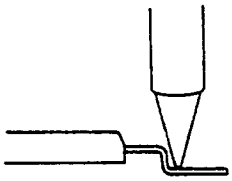
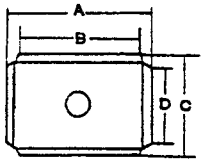
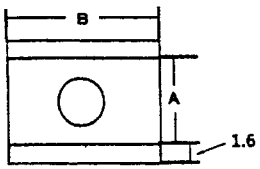
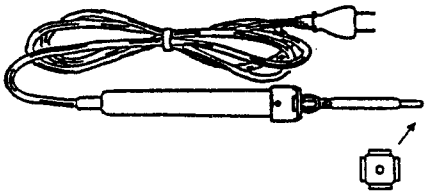
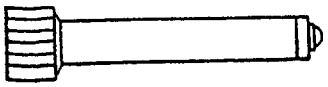


Fig. B

Exterior	Description	Part No.	Measure (mm)			
			A	B	C	D
	jig for removing 4-sided flat package IC	3-702-554-01	12.5	9.5	12.5	9.5
		〃 11	15.5	12.5	15.5	12.5
		〃 21	16.3	13.3	16.3	13.3
		〃 31	17.0	14.0	17.0	14.0
		〃 41	23.0	20.0	17.0	14.0
		〃 51	20.0	17.0	20.0	17.0
	jig for removing 2-sided flat package IC	3-702-555-01	6.0	5.0		
		〃 11	6.0	10.0		
		〃 21	7.0	12.5		
		〃 31	9.0	15.2		
		〃 41	9.0	18.0		
	soldering iron	3-702-552-01	55W 60g length 210mm			
	soldering holder	3-702-553-01				

SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted :

PICTURE control . . . . . RESET
BRIGHTNESS control . . . . . center

Perform the adjustments in order as follows :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser
3. Oscilloscope

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast, Bightness } normal
2. Set the pattern generator raster signal to green.
3. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side.
   (See Figures 3-1 through 3-3.)
4. Move the deflection yoke forward and adjust so that entire screen is green. (See Figure 3-1.)
5. Switch the raster signal to blue, then to red and verify the condition.
6. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
7. If the beam does not land correctly in all the corners, use a magnet to adjust it.
   (See Figure 3-4.)

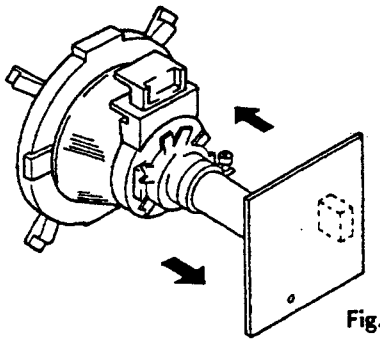


Fig.3-1

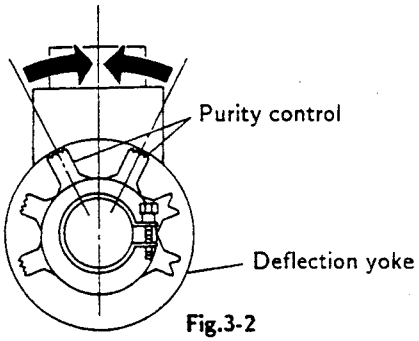


Fig.3-2

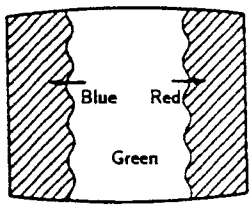


Fig.3-3

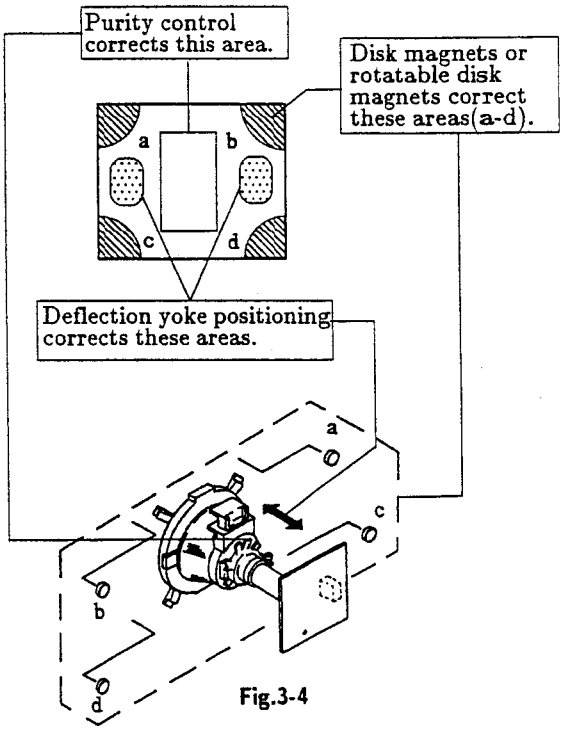


Fig.3-4

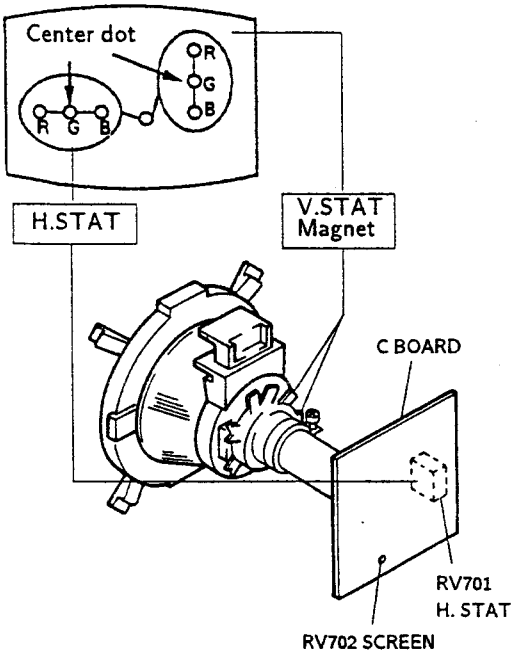
MC-Service

3-2. CONVERGENCE

Preparation :

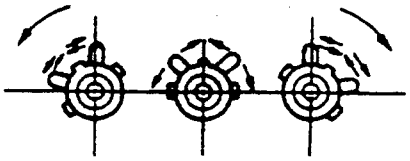
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) **Horizontal and Vertical Static Convergence**

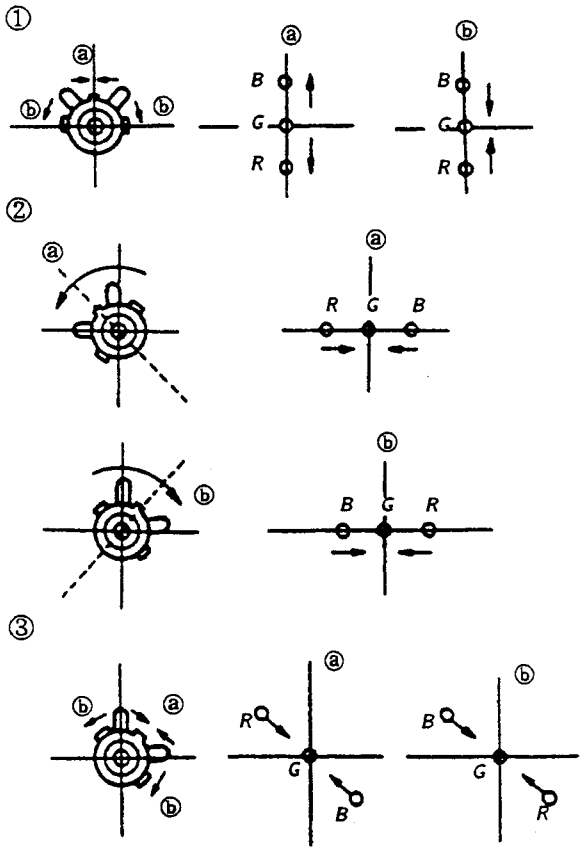


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

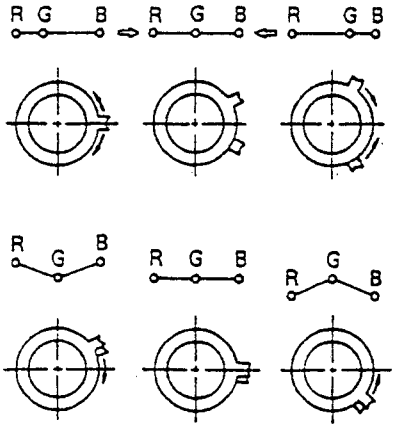
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.



- Operation of BMC (Hexapole) Magnet



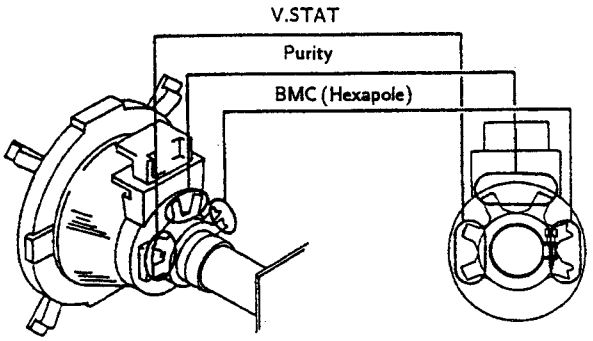
- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

(2) **Dynamic Convergence Adjustment**

Preparations :

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

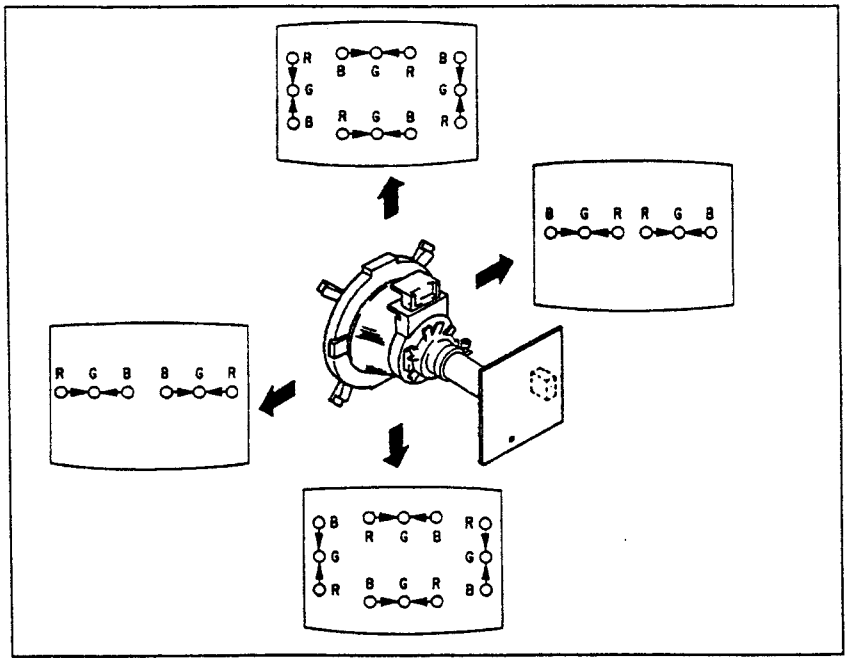
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.



• Y separation axis correction magnet adjustment

1. Receive the cross-hatch signal, and adjust [PIX] to "MIN" and [BRT] to "standard".
2. Adjust the deflection yoke to the upright condition when it hits the CRT.
3. Adjust so that the Y separation axis correction magnet on the neck assembly is symmetrical at the top and bottom (open state).
4. Return the deflection yoke to its original position.

3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the defelection yoke spacer.

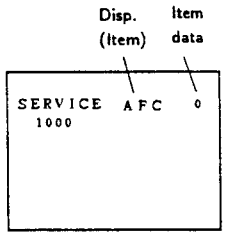


(3) **Dynamic Convergence Circuit Adjustment**
(32 inch only)

SERVICE MODE PROCEDURE

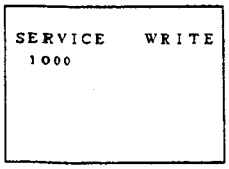
1. Standby mode.(Power off)
2. DISPLAY → 5 → VOL (+) → POWER on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN



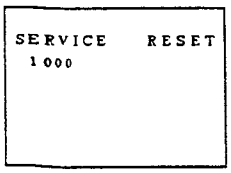
3. The CRT displays the item Being adjusted.
4. Press 1 or 4 on the Remote Commander to select the item.
5. Press 3 or 6 on the Remote Commander to change the data.
6. Press MUTING then ENTER to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



MUTING Green
↓
ENTER Red

7. Press 8 then ENTER on the Remote Commander to initlalize.



Factory original setting

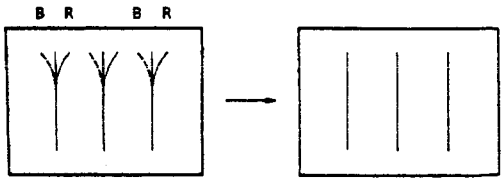
8. Turn set off and on to exit.

- Set to Service Mode.
- Input a cross-hatch signal.
- Press 1 and 4 serect an item of adjustments.
- Adjust 3 and 6 to the best picture.

No.	Disp.	Item	Ave.Data
39	UYBO	Upper Y-Bow	31
40	LYBO	Lower Y-Bow	25
41	HAMP	H. Amp	33
42	HTIL	H. Tilt	33
43	UCBO	Upper C-Bow	38
44	UTIL	Upper Tilt	40
45	LCBO	Lower C-Bow	41
46	LTIL	Lower Tilt	46
47	DCSH	DC Shift	37

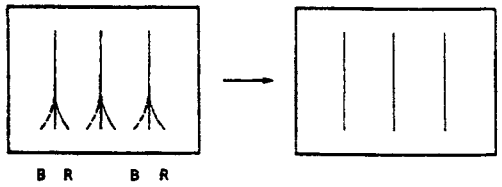
U. YBOW

Select UYBO with 1 and 4



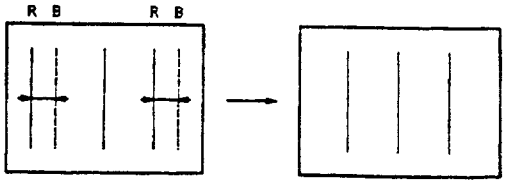
L. YBOW

Select LYBO with 1 and 4



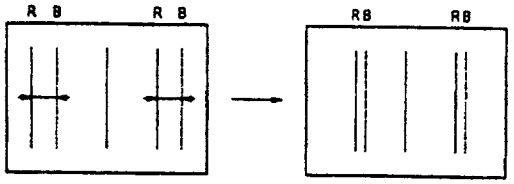
H. AMP

Select HAMP with 1 and 4



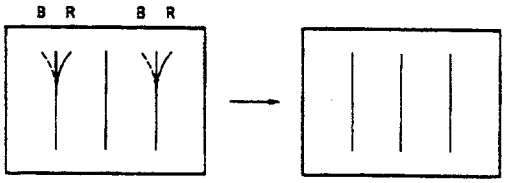
H. TILT

Select HTILT with 1 and 4



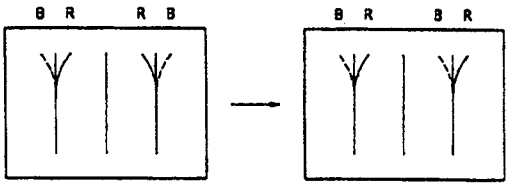
U. CBOW

Select UCBO with 1 and 4



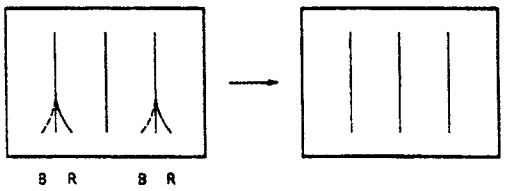
U. TILT

Select UTIL with 1 and 4



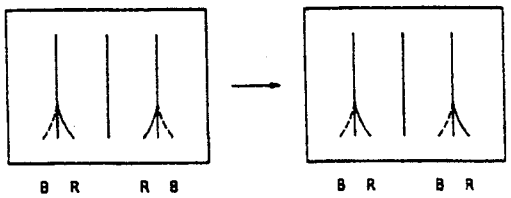
L. CBOW

Select LCBO with 1 and 4

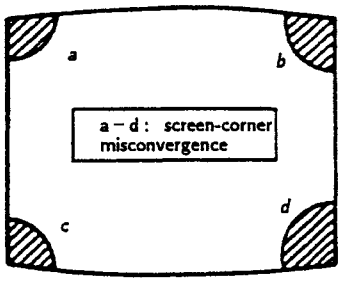


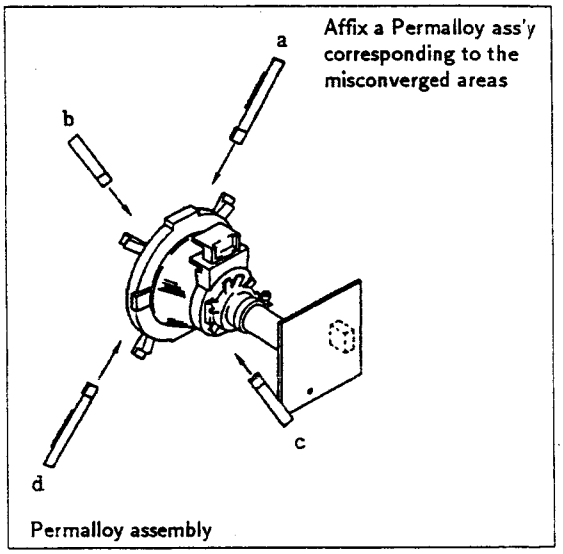
L. TILT

Select L. TIL with 1 and 4



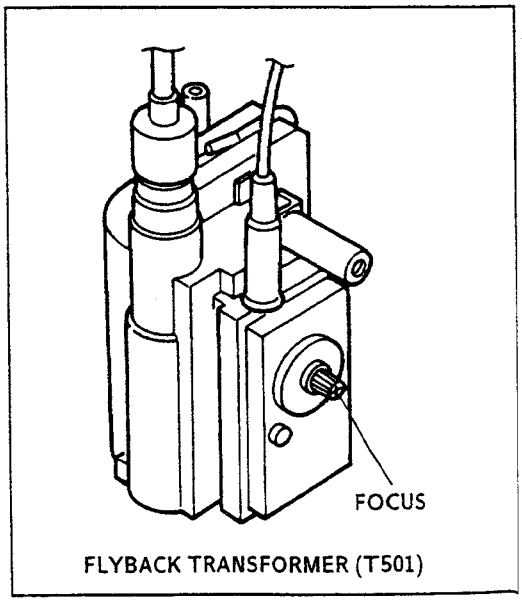
(4) Screen-corner Convergence





3-3. FOCUS ADJUSTMENT

Adjust FOCUS control on the flyback transformer for a best focus.



MC-Service

3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G 2 (SCREEN) ADJUSTMENT(RV 702)

1. Set the PICTURE and BRIGHTNESS to normal.
2. Confirm G 1 voltage is within 30.0±5 V.
3. Apply DC voltage of 180 V to the cathodes of R,G and B from DC stabilized power source.
4. While watching the picture, adjust the G2 control (RV 702) to the just the retrace line disappears.

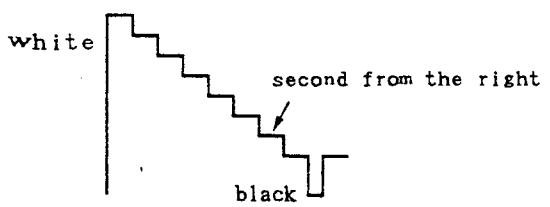
2. WHITE BALANCE ADJUSTMENTS

No.	Disp.	Item	Ave. Data
14	GAMP	Green Amp	20
15	BAMP	Blue Amp	17
16	GCUT	Green Cut-off	7
17	BCUT	Blue Cut-off	8
22	SBRT	Sub Bright	35

1. Input an entire white signal.
2. Set to service adjustment mode.
3. Set the PICTURE and BRIGHT to minimum.
4. Adjust with SBRT if necessary.
5. Select G CUT and B CUT with [1] and [4].
6. Adjust with [3] and [6] for the best white balance.
7. Set the PICTURE and BRIGHT to maximum.
8. Select GAMP and BAMP with [1] and [4].
9. Adjust with [3] and [6] for the best white balance.
10. Write into the memory by pressing [MUTING] then [ENTER].

3. SUB BRIGHT ADJUSTMENT

1. Set to service mode.
2. Input a staircase signal of black and white from the pattern generator.
3. BRIGHTNESS ··· RESET
   PICTURE ····· minimum
4. Select SBRT with [1] and [4], and adjust SUB BRIGHT level with [3] and [6] so that the stripe second from the right is dimly lit.



KV-27TS29/27TS32/27TS36 RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46 RM-Y118 RM-Y118 SA-W200

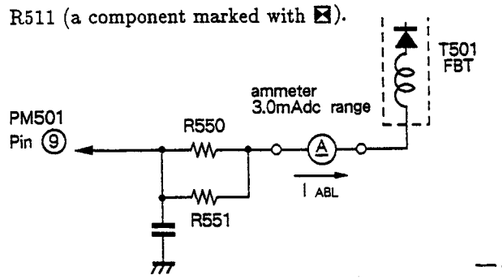
SECTION 4
SAFETY RELATED ADJUSTMENTS

⊠ R511 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ◪ on the schematic diagram).
PM501, R338, R511, R632, R645, R650

①

1. Preparation before confirmation
   1) Remove R635 on the D board and connect a variable resistor (RV1: about 22kΩ) between pin ① of IC601 and B+ line.
   2) Supply 130±2.0V AC to with variable autotransformer.
2. Hold-down operation confirmation
   1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to 1760±50μA with PICTURE and BRIGHT etc controls.
   2) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 142.5V DC (27 inch) 140.0V DC (32 inch) whereby the raster disappears during operation of hold-down circuit.
      NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
   3) Turn the POWER switch ON, and receive dot signals and adjust ABL current to 160±50μA with PICTURE and BRIGHT etc controls.
   4) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 145.0V DC (27 inch), 143.5V DC (32 inch) whereby the raster disappears during operation of hold-down circuit.
      NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
3. Hold-down readjustment
   When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R511 (a component marked with ⊠).



⊠ R524 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ◪ on the schematic diagram).
IC601, PM501, D504, C598, R338, R509, R524, R632, R635, R645, T501

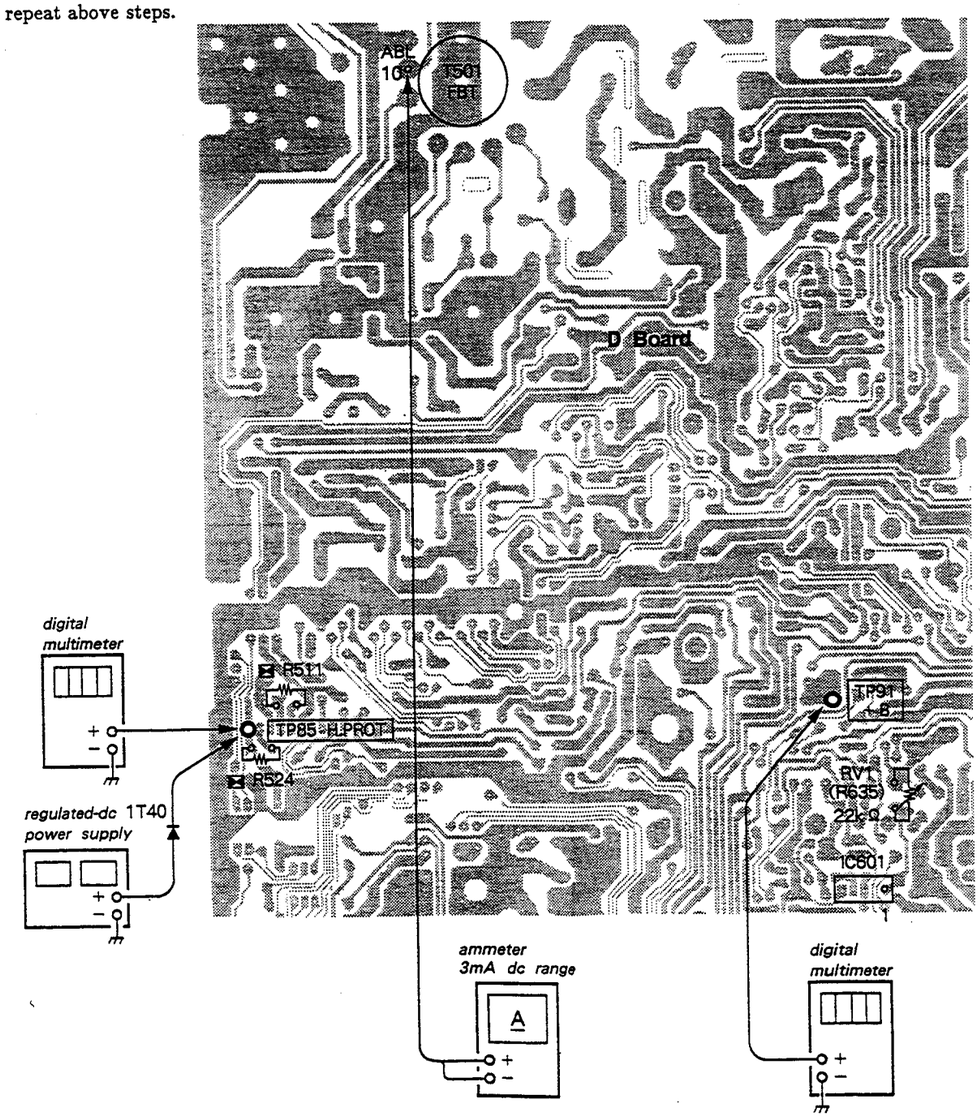
②

1. Preparation before confirmation
   1) Turn the POWER switch ON, and receive entirely white signals and set the PICTURE and BRIGHT controls to maximum.
   2) Confirm that voltage of the check terminal of TP-85 (D BOARD) is more than 114.0V DC (27 inch) 122.3V DC (32inch) when the set is operating normally with 120.0±2.0V AC supply.
2. Hold-down operation confirmation
   1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to 1760±50μA with PICTURE and BRIGHT etc controls .
   2) Apply DC voltage of over 130.0V DC gradually to the check terminal of TP-85 (D BOARD) via 1T40 from the DC stabilized power source. Confirm that the minimum voltage is less than 137.5V DC (27inch) 143.5V DC (32inch) whereby the raster disappears during operation of hold-down circuit.
      NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
   3) Turn the POWER switch ON, and receive dot signals and adjust ABL current to 160±50μA with PICTURE and BRIGHT etc controls .
   4) Apply DC voltage of over 130.0V gradually to the check terminal of TP-85 (D BOARD) via 1 T40 from the DC stabilized power source. Confirm that the minimum voltage is less than 138.0V DC (27inch) 144.1V DC (32inch) whereby the raster disappears during operation of hold-down circuit.
      NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
3. Hold-down readjustment
   When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R524 (a component marked with ⊠).

B+ VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC601 and R635.

1) Supply 130± $^{2.0}_{0.0}$ V AC to with variable autotransformer.
2) Receive entirely monoscope signal.
3) Set the PICTURE control and the BRIGHT controls in to initial reset.
4) Confirm the voltage of TP91 is less than 137.0V DC.
5) If step 4) is not satisfied, replace IC601 and R635 repeat above steps.



KV-27TS29/27TS32/27TS36 RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46 RM-Y116 RM-Y118 SA-W200

KV-27TS29/27TS32/27TS36 RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46 RM-Y116 RM-Y118 SA-W200

SECTION 5
CIRCUIT ADJUSTMENTS

5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use of Remote Commander can be performed circuit adjustments about this model.

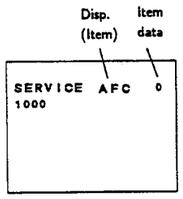
NOTE : Test Equipment Required.
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC

1. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

SERVICE MODE PROCEDURE

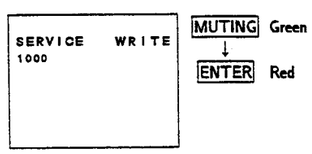
1. Standby mode.(Power off)
2. DISPLAY → 5 → VOL (+) → POWER on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN

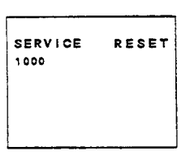


3. The CRT displays the item Being adjusted.
4. Press 1 or 4 on the Remote Commander to select the item.
5. Press 3 or 6 on the Remote Commander to change the data.
6. Press MUTING then ENTER to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



7. Press 8 then ENTER on the Remote Commander to initialize.



Carry out step 7) when adjusting IDs 0 to 4 and when replacing and adjusting IC102.

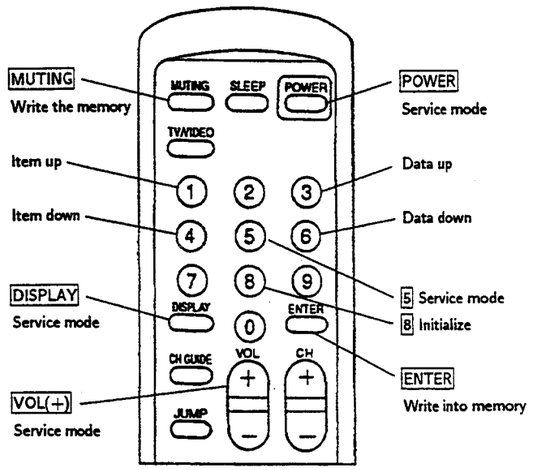
Factory original setting

8. Turn set off and on to exit.

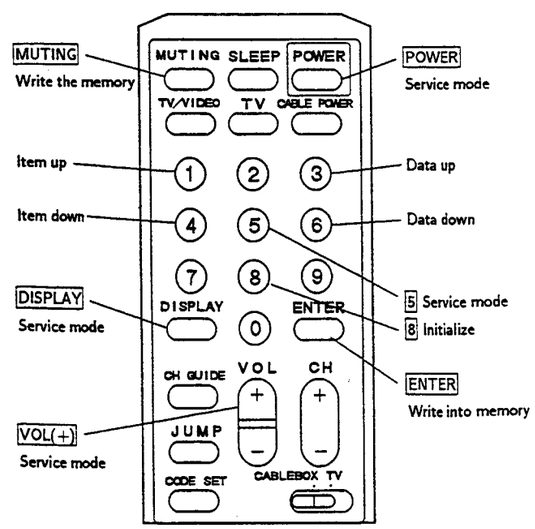
2. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again, confirm they were adjusted.

3. ADJUST BUTTONS AND INDICATOR



RM-Y116



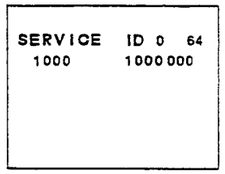
RM-Y117/RM-Y118

4. AN ITEM OF ADJUSTMENTS

No.	Disp.	Item	Data range	Ave. data (27 inch)	Ave. data (32 inch)
1	AFC	AFC Loop Gain	0~3	* 0	* 0
2	HFRE	H. Frequency	0~127	70	70
3	VFRE	V. Frequency	0~31	16	16
4	VPOS	V. Center	0~31	17	17
5	VSIZ	V. Size	0~63	28	12
6	VLIN	V. Linearity	0~15	8	7
7	VSCO	V. Correction	0~15	6	6
8	HPOS	H. Center	0~15	6	5
9	HSIZ	H. Size	0~31	31	27
10	PAMP	Pin Amp	0~31	24	31
11	CPIN	Corner Pin	0~7	3	0
12	PPHA	Pin Phase	0~15	6	4
13	VCOM	V. Compensation	0~7	* 2	* 2
14	GAMP	Green Amp	0~31	20	20
15	BAMP	Blue Amp	0~31	17	17
16	GCUT	Green Cut Off	0~15	7	7
17	BCUT	Blue Cut Off	0~15	8	8
18	CROM	Chroma Trap	0~63	* 28	* 28
19	SPIX	Sub Contrast	0~63	20	20
20	SHUE	Sub Hue	0~63	33	33
21	SCOL	Sub Color	0~63	32	32
22	SBRT	Sub Bright	0~63	35	35
23	RGBP	RGB Picture	0~63	* 10	* 10
24	SHAP	Sharpness	0~15	* 7	* 7
25	VSMO	V Pull in Range	0, 1	* 0	* 0
26	REF	Refference line	0~3	* 2	* 2
27	ROFF	Red Out	0, 1	1	1
28	GOFF	Green Out	0, 1	1	1
29	BOFF	Blue Out	0, 1	1	1
30	ABLM	ABL Mode	0, 1	* 0	* 0
31	NOTC	Notch On/Off	0, 1	* 1	* 1
32	DRGB	OSD intensity	0, 1	* 0	* 0
33	VANG	V. Angle	0~63	0	0
34	DISP	Display Position	0~63	40	40
35	SVOL	Sub Volume	0~15	* 0	* 0
36	SBAL	Sub Balance	0~15	7	7
37	BASS	Sub Bass	0~15	* 8	* 8
38	TRE	Sub Treble	0~15	* 7	* 7
39	UYBO	Upper Y. Bow	0~63	—	31
40	LYBO	Lower Y. Bow	0~63	—	25
41	HAMP	H. Amp	0~63	—	33
42	HTIL	H. Tilt	0~63	—	33
43	UCBO	Upper C. Bow	0~63	—	38
44	UTIL	Upper Tilt	0~63	—	40
45	LCBO	Lower C. Bow	0~63	—	41
46	LTIL	Lower Tilt	0~63	—	46
47	DCSH	DC. Shift	0~63	—	37
48	PHPO	PinP H Position	0~127	76	76
49	PHUE	PinP Hue	0~31	* 0	* 0
50	ID-0	Model ID	0~127	by Model	by Model
51	ID-1	Model ID	0~127	by Model	by Model
52	ID-2	Model ID	0~127	by Model	by Model
	ID-2	Model ID	0~127	by Model	by Model
	ID-2	Model ID	0~127	by Model	by Model
53	ID-3	Model ID	0~127	by Model	by Model
54	ID-4	Model ID	0~127	by Model	by Model

* : Set-up value

Note : No.from 1 to 54 is to show adjusment order.



Please adjust the function values as shown below when IC 102 on M board was replaced.

KV-27TS29 (US)

No.	Disp.	Disp.	Data
50	ID-0	1 0 0 0 0 0 0	64
51	ID-1	1 1 1 1 1 1 1	127
52	ID-2	1 0 0 0 0 0 0	64
53	ID-3	0 0 0 0 0 0 0	0
54	ID-4	0 0 1 0 0 0 0	16

KV-27TS29 (CND)

No.	Disp.	Disp.	Data
50	ID-0	1 0 0 0 0 0 0	64
51	ID-1	1 1 1 1 1 1 1	127
52	ID-2	0 0 0 0 0 0 0	0
53	ID-3	0 0 0 0 0 0 0	0
54	ID-4	0 0 1 0 0 0 0	16

KV-27TS32 (US)

No.	Disp.	Disp.	Data
50	ID-0	1 1 1 1 0 0 0	120
51	ID-1	1 1 1 1 1 1 1	127
52	ID-2	1 1 0 1 0 0 0	104
53	ID-3	0 0 0 0 0 0 0	0
54	ID-4	0 0 1 0 0 0 0	16

KV-27TS36/32TS36 (US)

No.	Disp.	Disp.	Data
50	ID-0	1 1 1 1 0 0 0	120
51	ID-1	1 1 1 1 1 1 1	127
52	ID-2	1 0 0 1 0 0 0	72
53	ID-3	1 0 0 0 0 0 0	64
54	ID-4	0 0 1 0 0 0 0	16

KV-27TS36/32TS36 (CND)

No.	Disp.	Disp.	Data
50	ID-0	1 1 1 1 0 0 0	120
51	ID-1	1 1 1 1 1 1 1	127
52	ID-2	0 0 0 1 0 0 0	8
53	ID-3	1 0 0 0 0 0 0	64
54	ID-4	0 0 1 0 0 0 0	16

KV-32TS46 (US)

No.	Disp.	Disp.	Data
50	ID-0	1 1 1 1 0 0 0	120
51	ID-1	1 1 1 1 1 1 1	127
52	ID-2	1 0 0 1 0 0 0	72
53	ID-3	0 1 0 0 1 0 0	36
54	ID-4	0 0 1 0 0 0 0	16

KV-32TS46 (CND)

No.	Disp.	Disp.	Data
50	ID-0	1 1 1 1 0 0 0	120
51	ID-1	1 1 1 1 1 1 1	127
52	ID-2	0 0 0 1 0 0 0	8
53	ID-3	0 1 0 0 1 0 0	36
54	ID-4	0 0 1 0 0 0 0	16

5-2. M BOARD ADJUSTMENTS

H.FREQUENCY ADJUSTMENT (HFRE)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Connect a frequency counter to CN131 Pin⑬ (H. DRIVE) connector and ground.
4. Call the item of AFC, set to 3 level (free run).
5. Select HFRE with 1 and 4.
6. Adjust with 3 and 6 for the 15734± 60Hz.
7. Call the item of AFC again, adjust the level" 0 ".
8. Write into the memory by pressing MUTING then ENTER.

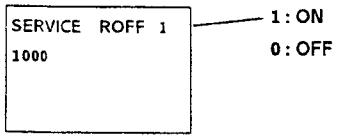
V.FREQUENCY ADJUSTMENT (VFRE)

1. Select video 1 with no connecting the signal.
2. Set to Service adjustment Mode.
3. Connect the frequency counter across connectorCN131 Pin⑦ (V. DRIVE) connector and ground.
4. Select VFRE with 1 and 4.
5. Adjust with 3 and 6 for the 55 ±0.5Hz.
6. Write the memory by pressing MUTING then ENTER .

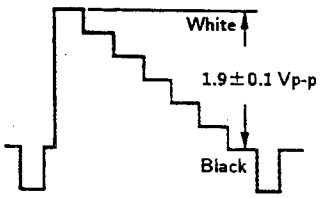
SUB CONTRAST ADJUSTMENT (SPIX)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Set the conditions as follows.

PICTURE	·····	MAX
COLOR	·····	MIN
BRIGHT	·····	CENTER
R OFF	·····	ON (1)
G OFF	·····	OFF (0)
B OFF	·····	OFF (0)



4. Connect an oscilloscope to CN703 Pin① (R OUT) of C board and ground.
5. Select SPIX with 1 and 4.
6. Adjust with 3 and 6 for the 1.9±0.1Vp-p.

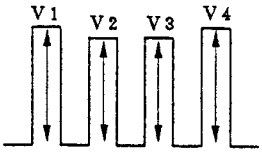


7. Write the memory by pressing MUTING then ENTER .
8. Return the following back to normal after adjustment.

PICTURE	·····	MAX
BRIGHT	·····	CENTER
COLOR	·····	CENTER
R OFF	·····	ON
G OFF	·····	ON
B OFF	·····	ON

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1. Input a color-bar signal.
2. Set to service adjustment mode.
3. Connect an oscilloscope to CN703 Pin③ (B OUT) of C board.
4. Select SHUE and SCOL with 1 and 4.
5. Adjust with 3 and 6 for the V1=V4 (SCOR) and V2 =V3 (SHUE).



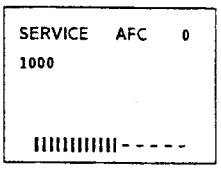
6. Increase the data of SCOL by 5 steps.
7. Write into the memory by pressing MUTING then ENTER .

SUB BARANCE ADJUSTMENT (SBAL)

1. Input a stereo signal.
2. Set to service adjustment mode.
3. Select SBAL with 1 and 4.
4. Adjust with 3 and 6 for the best sound balance
5. Write into the memory by pressing MUTING then ENTER .

DISPLAY POSITION ADJUSTMENT (DISP)

1. Input a color-bar signal.
2. Set to service adjustment Mode.
3. Select DISP with 1 and 4.
4. Adjust with 3 and 6 for the bar center.
5. Write the memory by pressing MUTING then ENTER .

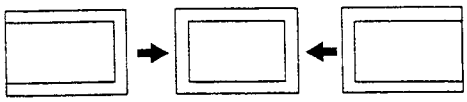


H.CENTER ADJUSTMENT (H POS)

Note: Perform this adjustment after H.FREQUENCY ADJUSTMENT (HFRE).

1. Input a cross-hatch signal.
2. Set the Service adjustment mode.
3. Select HPOS with 1 and 4.
4. Adjust with 3 and 6 to the best horizontal center.
5. Write into the memory by pressing MUTING then ENTER.

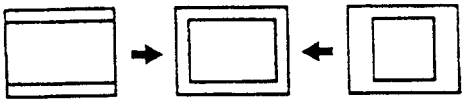
H. CENTER (HPOS)



H.SIZE ADJUSTMENT (HSIZ)

1. Input a cross-hatch signal.
2. Set to service adjustment Mode.
3. Select HSIZ with 1 and 4.
4. Adjust with 3 and 6 for best horizontal size.
5. Write into the memory by pressing MUTING then ENTER.

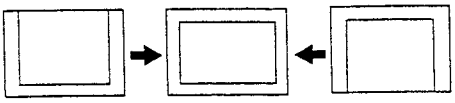
H. SIZE (HSIZ)



V.CENTER ADJUSTMENT (VPOS)

1. Input a cross-hatch signal.
2. Set to service adjustment Mode.
3. Select VPOS with 1 and 4.
4. Adjust with 3 and 6 for the best vertical senter.
5. Write into the memory by pressing MUTING then ENTER.

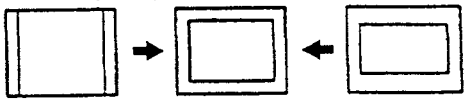
V. CENTER (VPOS)



V.SIZE ADJUSTMENT (VSIZ)

1. Input a cross-hatch signal.
2. Set to service adjustment Mode.
3. Select VSIZ with 1 and 4.
4. Adjust with 3 and 6 for the best vertical size.
5. Write into the memory by pressing MUTING then ENTER.

V. SIZE (VSIZ)

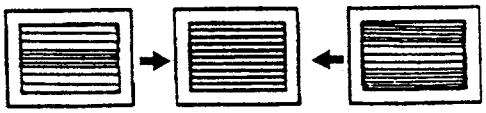


V LINEARITY(VLIN), VS CORRECTION(VSCO), PIN AMP(PAMP), CORNER PIN(CPIN), AND PIN PHASE(PPHA) ADJUSTMENTS

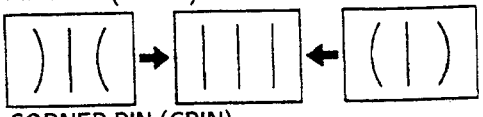
1. Input a cross-hatch signal.
2. Set to Service adjustment Mode.
3. Select VLIN, VSCO, PAMP, CPIN, and PPHA with 1 and 4.
4. Adjust with 3 and 6 for the best picture.
5. Write the memory byPressing MUTING then ENTER.

V LINEARITY (VLIN)

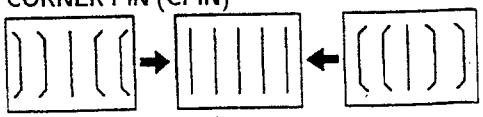
VS CORRECTION (VSCO)



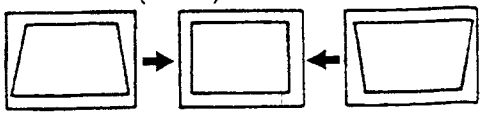
PIN AMP (PAMP)



CORNER PIN (CPIN)

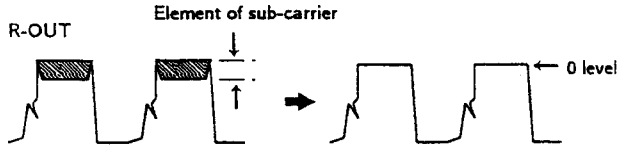


PIN PHASE (PPHA)



CROMA TRAP ADJUSTMENT (CROM)

1. Input a red signal
2. Set to Service adjustment Mode.
3. Connect an oscilloscope CN703 Pin① (R OUT) of C board ground.
4. Select CROM with 1 and 4.
5. Adjust with 3 and 6 for the 0 level.

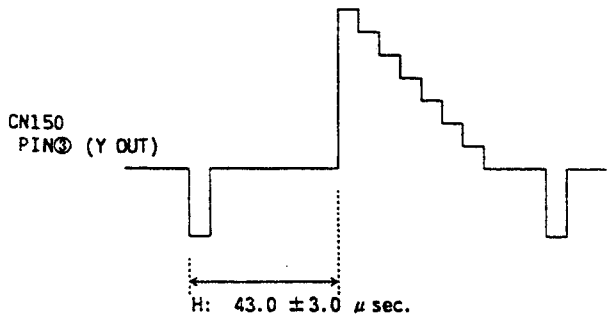


6. Write the memory by pressing MUTING then ENTER .

5-3. P BOARD ADJUSTMENTS

P IN P H. POSITION (PHPO)

1. Input a color-bar signal
2. Set to Service adjustment Mode.
3. Connect an oscilloscope CN150 Pin③ (Y OUT).
4. Select PHPO with 1 and 4.
5. Adjust with 3 and 6 for the 43.0±3.0 μsec (H).

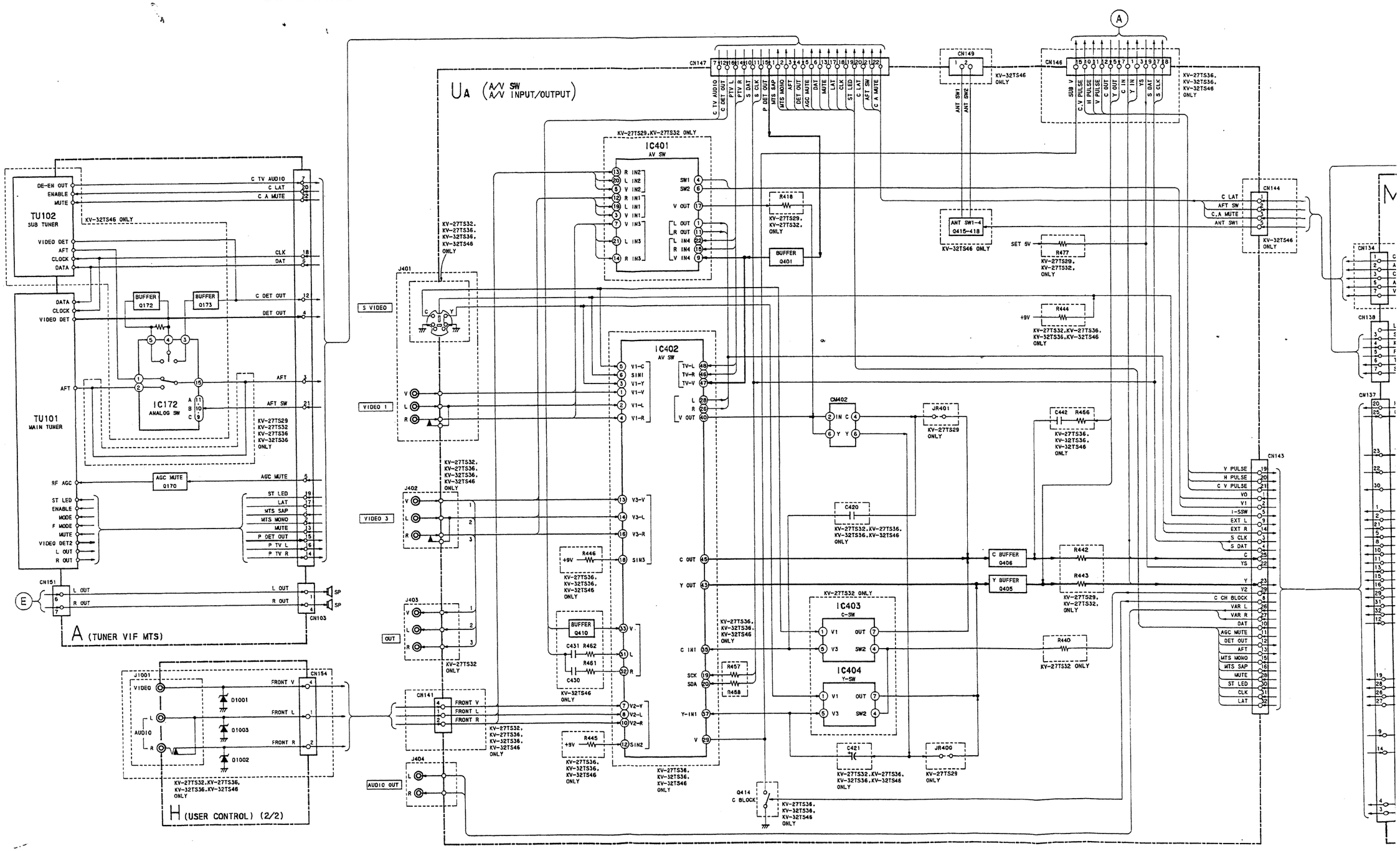


6. Write the memory by pressing MUTING then ENTER .

KV-27TS29/27TS32/27TS36
RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46
RM-Y118 RM-Y118
SA-W200

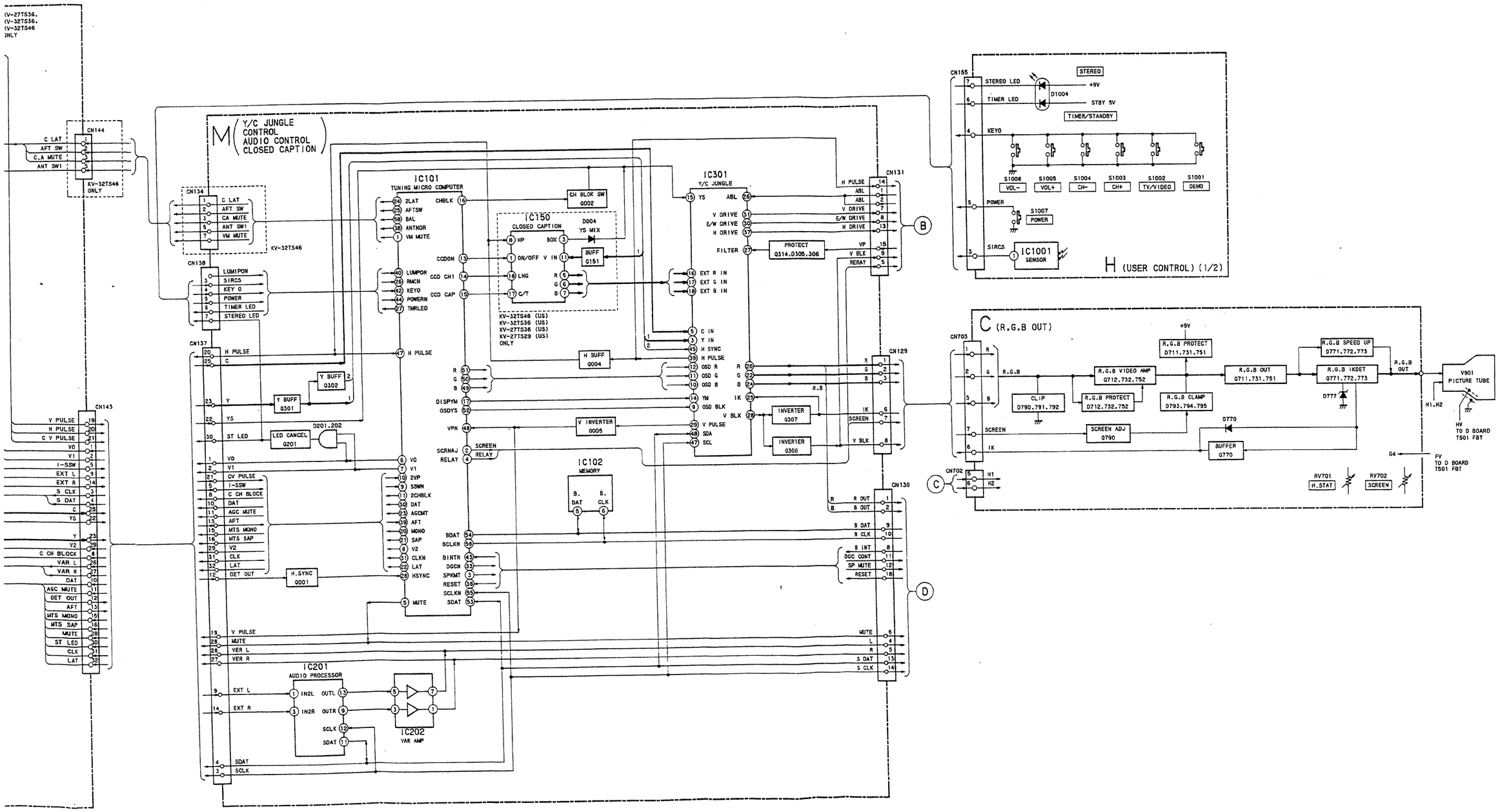
SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAMS (1)


UA (SW INPUT/OUTPUT)
A (TUNER VIF MTS)
H (USER CONTROL) (2/2)
TU102 SUB TUNER
TU101 MAIN TUNER
IC401 AV SW
IC402 AV SW
IC403 C-SW
IC404 Y-SW
IC172 ANALOG SW
BUFFER Q172
BUFFER Q173
AGC MUTE Q170
BUFFER Q401
BUFFER Q410
C BUFFER Q406
Y BUFFER Q405
Q414 C BLOCK
ANT SW1-4 Q415-418
KV-27TS29, KV-27TS32 ONLY
KV-32TS46 ONLY
KV-27TS32, KV-27TS36, KV-32TS36, KV-32TS46 ONLY
KV-27TS29, KV-27TS32, KV-27TS36 ONLY
KV-27TS36, KV-32TS36, KV-32TS46 ONLY
KV-27TS32, KV-32TS36, KV-32TS46 ONLY
KV-27TS32, KV-27TS36, KV-32TS46 ONLY
KV-27TS36, KV-32TS36, KV-32TS46 ONLY
KV-27TS32,

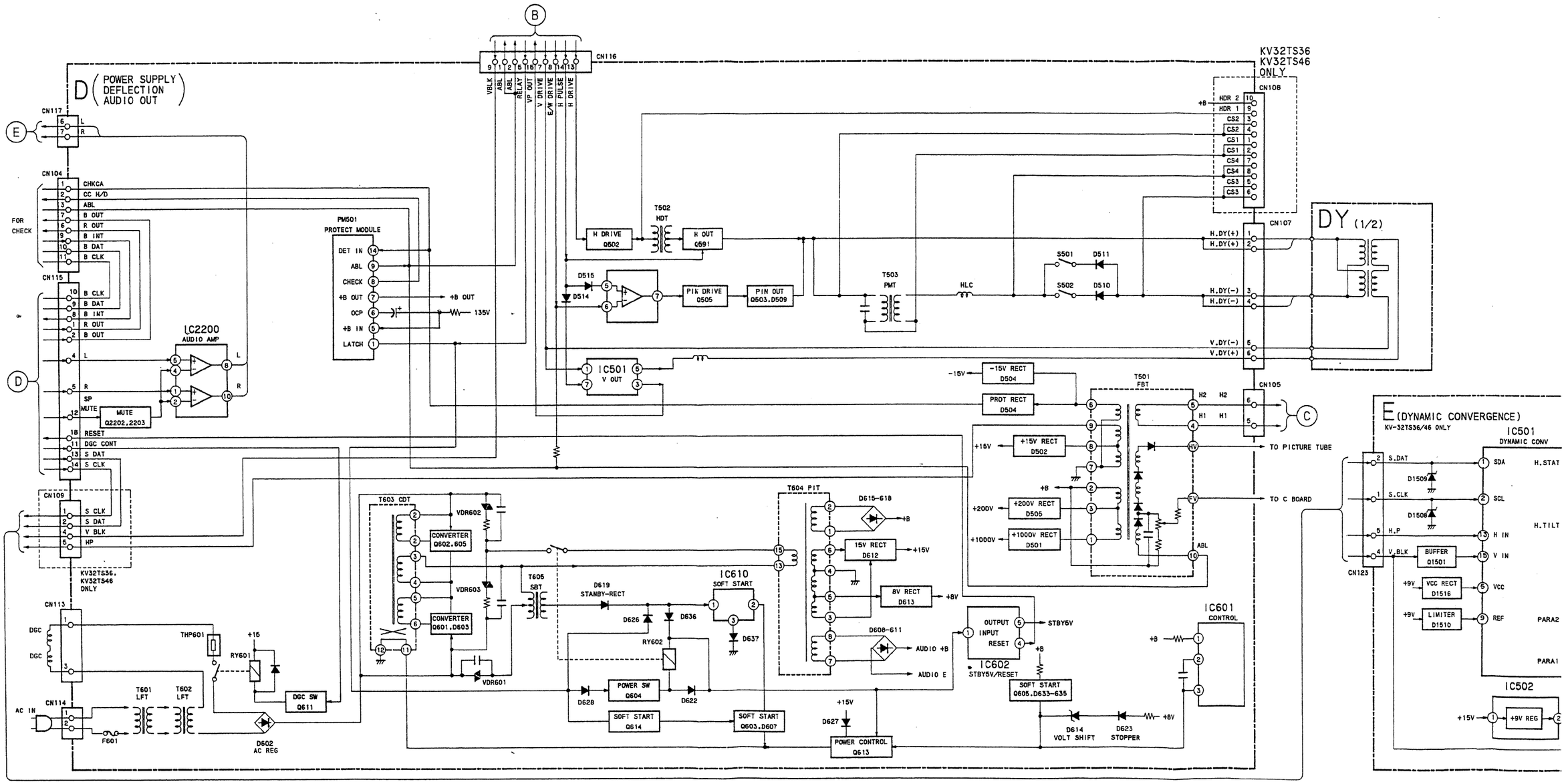
KV-27TS29/27TS32/27TS36 RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46 RM-Y118 RM-Y118 SA-W200

KV-27TS29/27TS32/27TS36 RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46 RM-Y118 RM-Y118 SA-W200

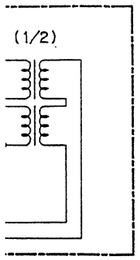


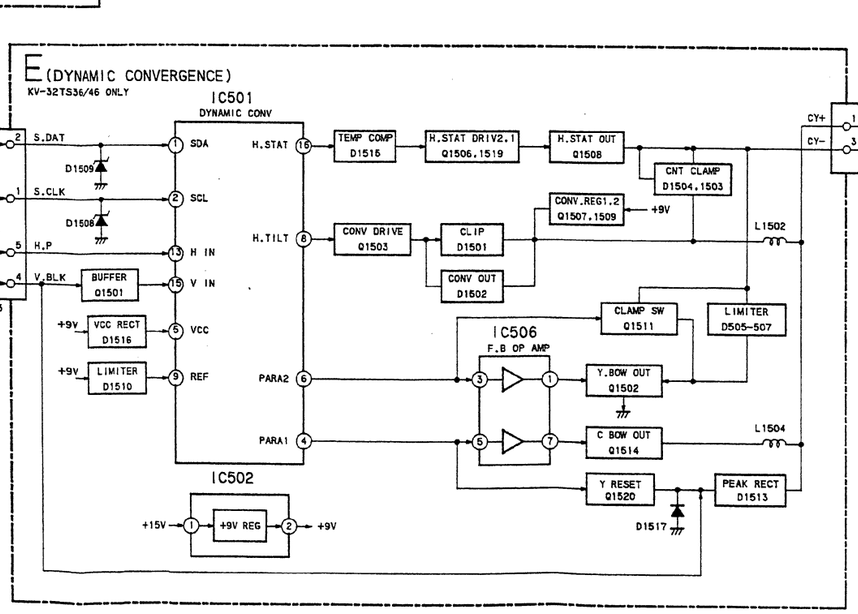
KV-27TS29/27TS32/27TS36 RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46 RM-Y118 RM-Y118 SA-W200

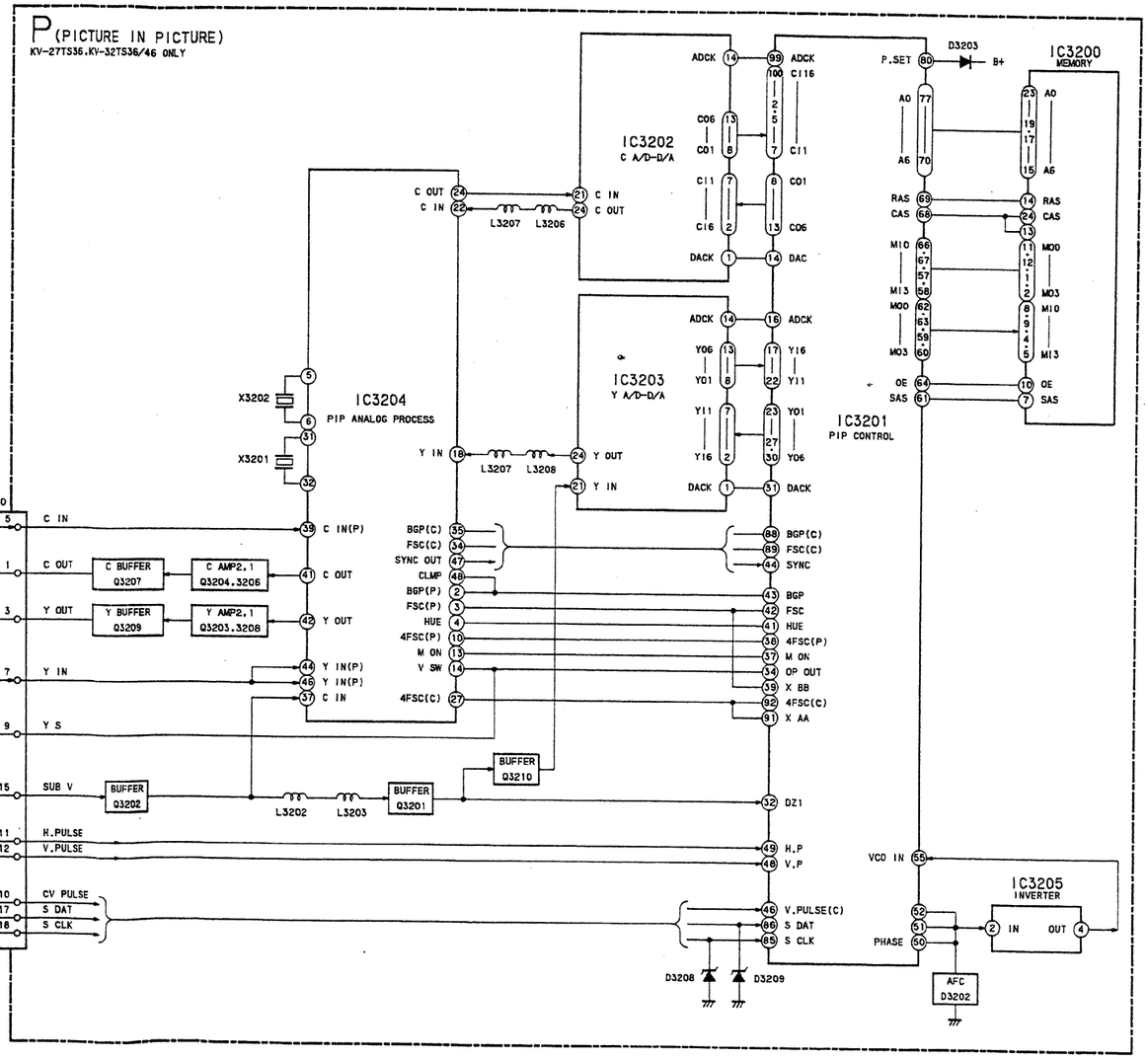
BLOCK DIAGRAMS (2)



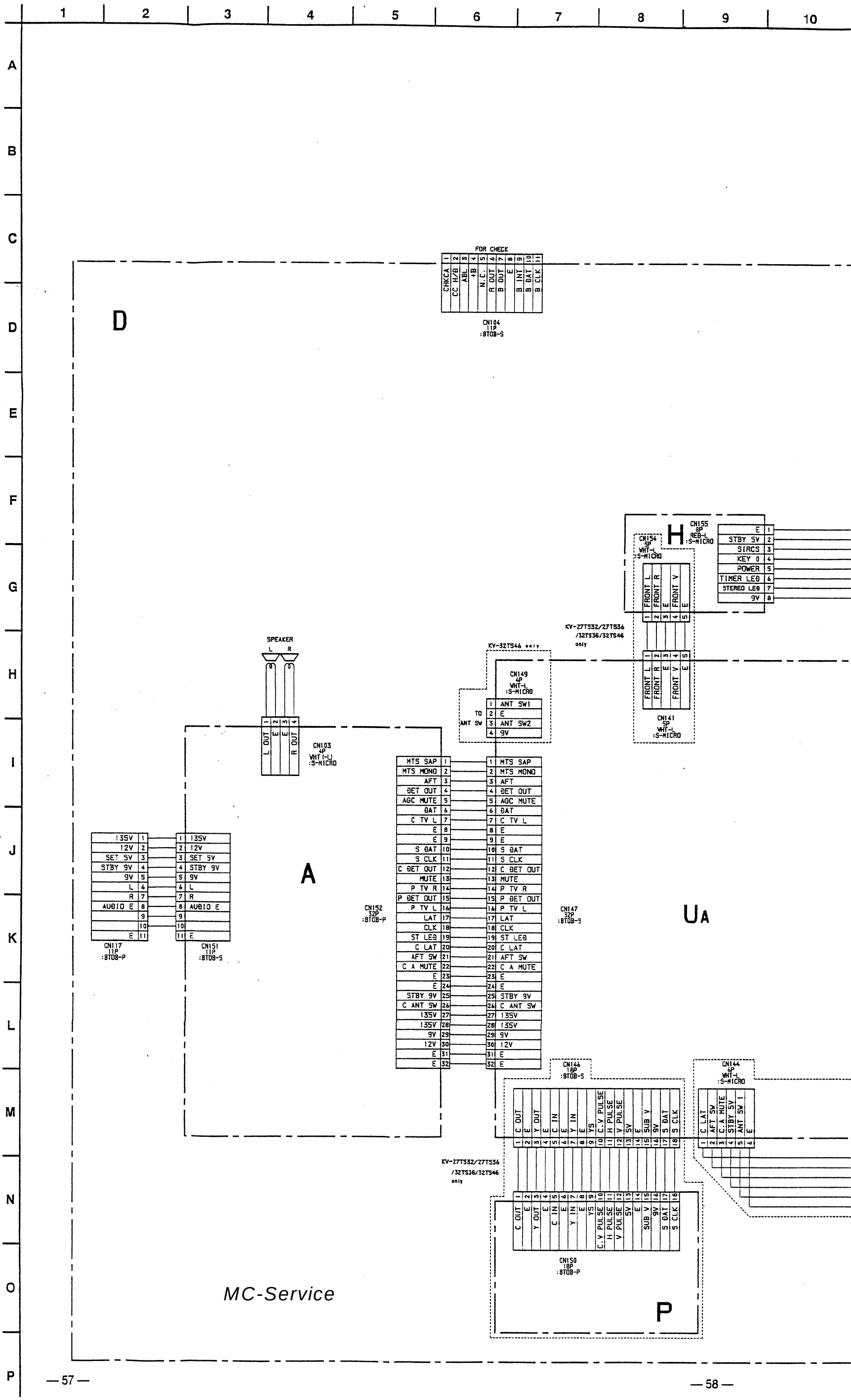
KV-27TS29/27TS32/27TS36
RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46
RM-Y118 RM-Y118 SA-W200

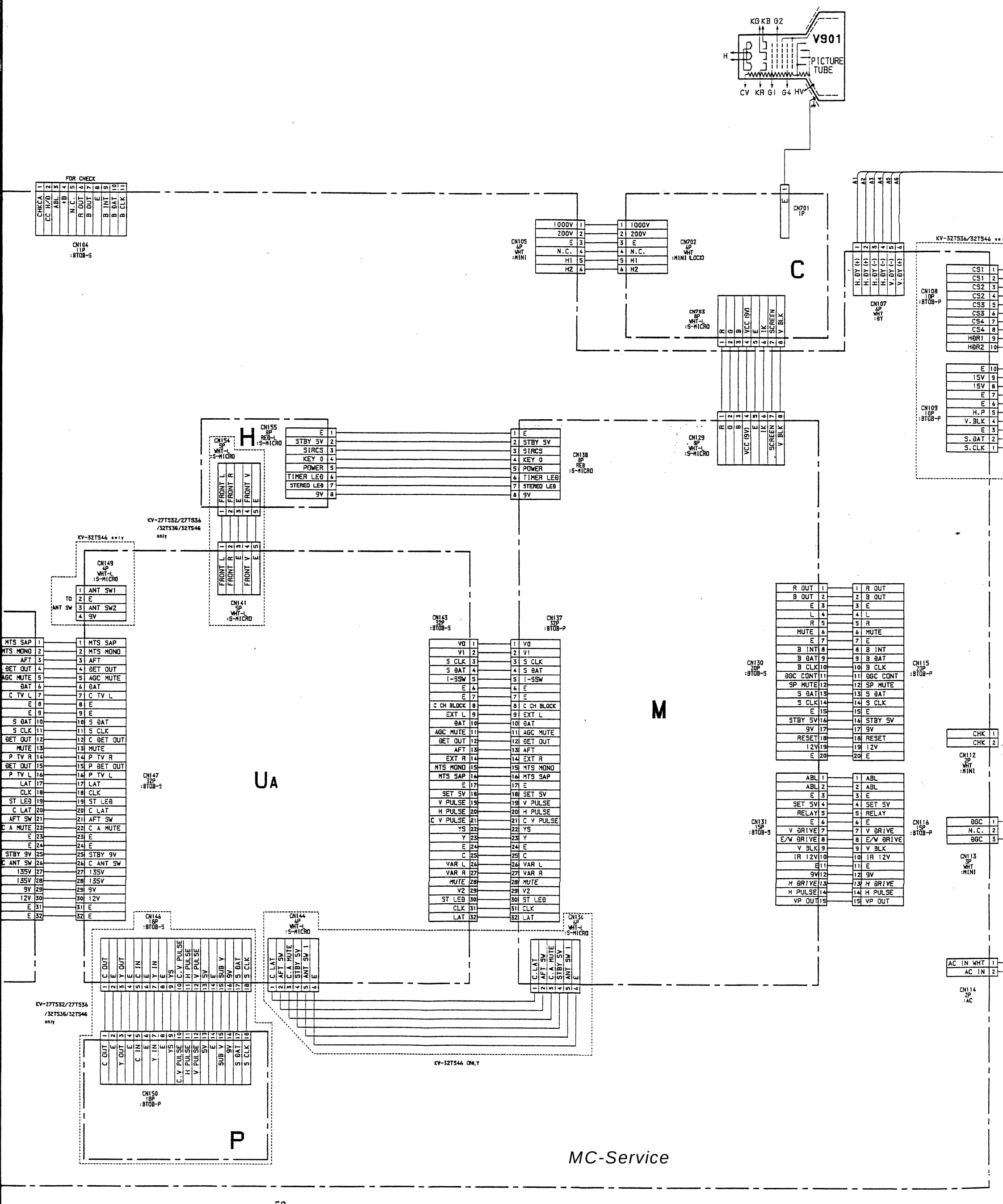




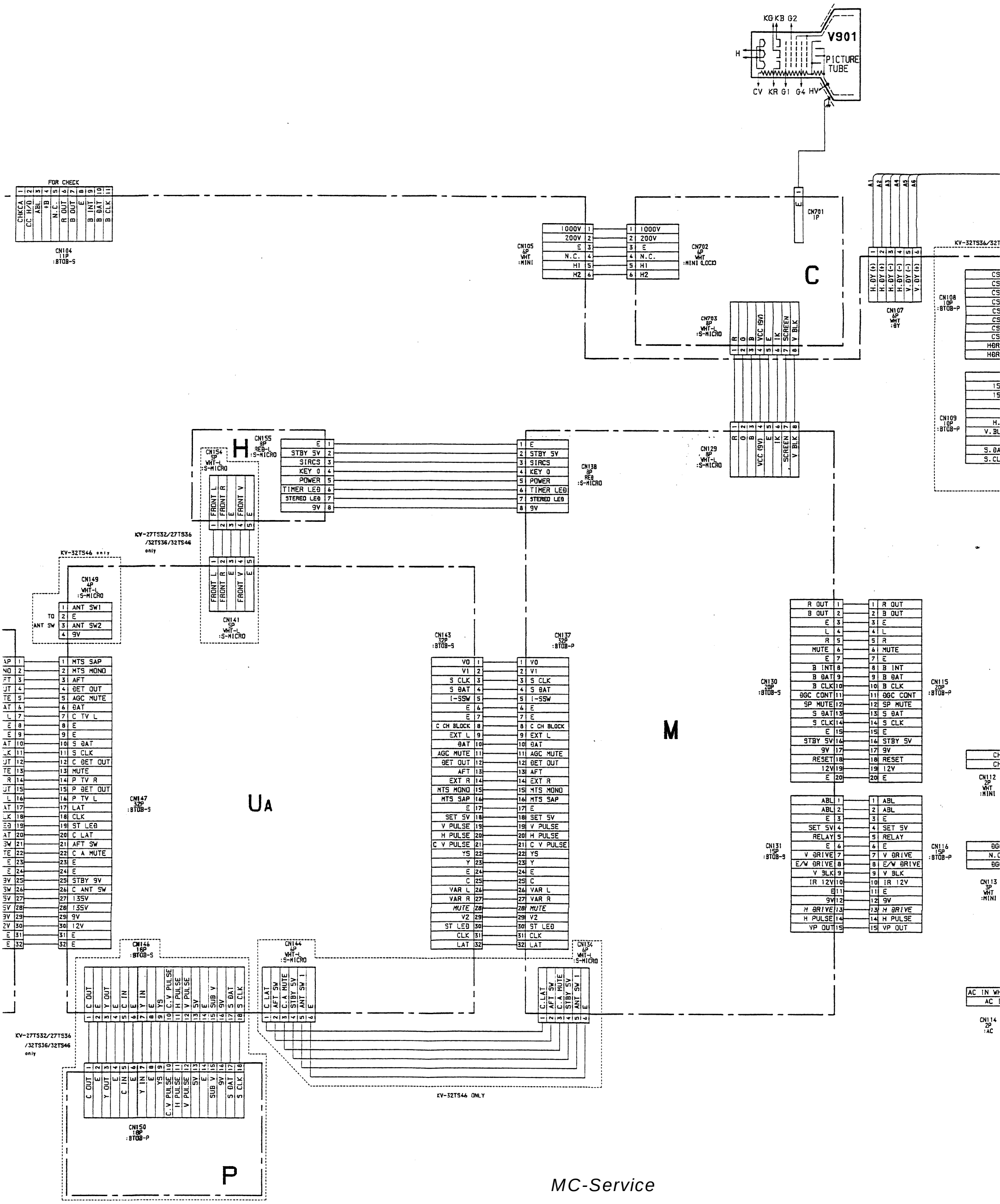


6-2. FRAME SCHAMATIC DIAGRAM

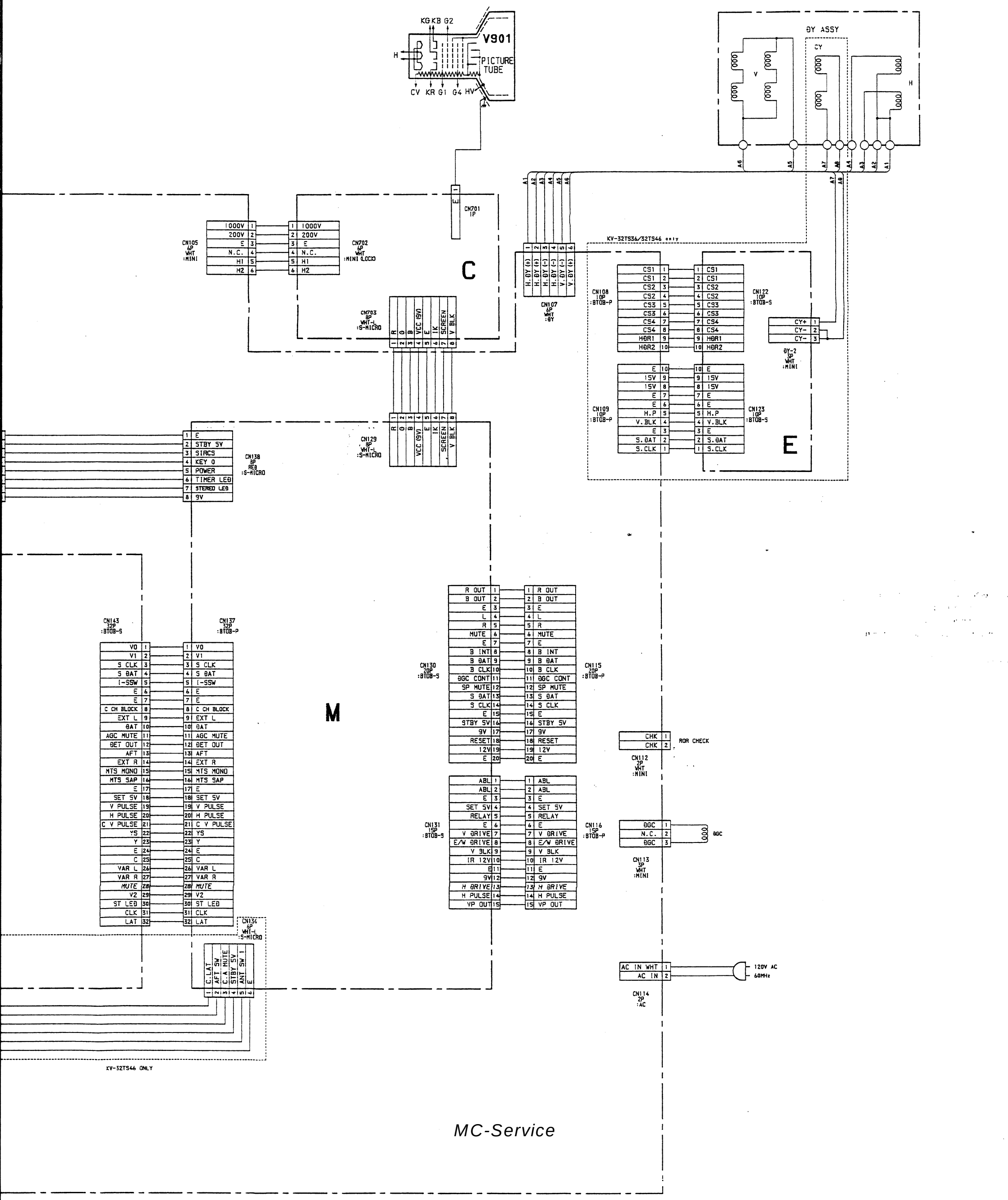



V901
PICTURE TUBE
KG KB G2
H
CV KR G1 G4 HV
FOR CHECK
CHKCA 1
CC H/Θ 2
ABL 3
+B 4
N.C. 5
R OUT 6
B OUT 7
E 8
B INT 9
B DAT 10
B CLK 11
CN104 11P :BTOB-S
CN105 6P WHT :MINI
1000V 1
200V 2
E 3
N.C. 4
H1 5
H2 6
CN702 6P WHT :MINI CLOCK
CN701 1P
E 1
C
CN703 8P WHT-L :S-MICRO
R 1
G 2
B 3
VCC (9V) 4
E 5
IK 6
SCREEN 7
V BLK 8
CN129 8P WHT-L :S-MICRO
CN107 6P WHT :8Y
A1 A2 A3 A4 A5 A6
H.ΘY (+)
H.ΘY (+)
H.ΘY (-)
H.ΘY (-)
V.ΘY (-)
V.ΘY (+)
KV-32TS36/32TS46 only
CN108 10P :BTOB-P
CS1 1
CS1 2
CS2 3
CS2 4
CS3 5
CS3 6
CS4 7
CS4 8
HΘR1 9
HΘR2 10
CN109 10P :BTOB-P
E 10
15V 9
15V 8
E 7
E 6
H.P 5
V.BLK 4
E 3
S.ΘAT 2
S.CLK 1
H
CN155 8P REB-L :S-MICRO
E 1
STBY 5V 2
SIRCS 3
KEY 0 4
POWER 5
TIMER LEΘ 6
STEREO LEΘ 7
9V 8
CN154 5P WHT-L :S-MICRO
FRONT L 1
FRONT R 2
E 3
FRONT V 4
E 5
CN138 8P REΘ :S-MICRO
KV-27TS32/27TS36 /32TS36/32TS46 only
KV-32TS46 only
CN141 5P WHT-L :S-MICRO
CN149 4P WHT-L :S-MICRO
TO ANT SW
ANT SW1 1
E 2
ANT SW2 3
9V 4
M
R OUT 1
B OUT 2
E 3
L 4
R 5
MUTE 6
E 7
B INT 8
B ΘAT 9
B CLK 10
ΘGC CONT 11
SP MUTE 12
S ΘAT 13
S CLK 14
E 15
STBY 5V 16
9V 17
RESET 18
12V 19
E 20
CN130 20P :BTOB-S
CN115 20P :BTOB-P
ABL 1
ABL 2
E 3
SET 5V 4
RELAY 5
E 6
V ΘRIVE 7
E/W ΘRIVE 8
V BLK 9
IR 12V 10
E 11
9V 12
H ΘRIVE 13
H PULSE 14
VP OUT 15
CN131 15P :BTOB-S
CN116 15P :BTOB-P
CHK 1
CHK 2
CN112 2P WHT :MINI
ΘGC 1
N.C. 2
ΘGC 3
CN113 3P WHT :MINI
AC IN WHT 1
AC IN 2
CN114 2P :AC
MTS SAP 1
MTS MONO 2
AFT 3
ΘET OUT 4
AGC MUTE 5
ΘAT 6
C TV L 7
E 8
E 9
S ΘAT 10
S CLK 11
ΘET OUT 12
MUTE 13
P TV R 14
ΘET OUT 15
P TV L 16
LAT 17
CLK 18
ST LEΘ 19
C LAT 20
AFT SW 21
C A MUTE 22
E 23
E 24
STBY 9V 25
C ANT SW 26
135V 27
135V 28
9V 29
12V 30
E 31
E 32
CN147 32P :BTOB-S
UA
CN143 32P :BTOB-S
CN137 32P :BTOB-P
VO 1
V1 2
S CLK 3
S ΘAT 4
I-SSW 5
E 6
E 7
C CH BLOCK 8
EXT L 9
ΘAT 10
AGC MUTE 11
ΘET OUT 12
AFT 13
EXT R 14
MTS MONO 15
MTS SAP 16
E 17
SET 5V 18
V PULSE 19
H PULSE 20
C V PULSE 21
YS 22
Y 23
E 24
C 25
VAR L 26
VAR R 27
MUTE 28
V2 29
ST LEΘ 30
CLK 31
LAT 32
CN146 18P :BTOB-S
C OUT 1
E 2
Y OUT 3
E 4
C IN 5
E 6
Y IN 7
E 8
YS 9
C.V PULSE 10
H PULSE 11
V PULSE 12
5V 13
E 14
SUB V 15
9V 16
S ΘAT 17
S CLK 18
KV-27TS32/27TS36 /32TS36/32TS46 only
CN150 18P :BTOB-P
P
CN144 6P WHT-L :S-MICRO
C LAT 1
AFT SW 2
C.A MUTE 3
STBY 5V 4
ANT SW 1 5
E 6
CN134 6P WHT-L :S-MICRO
KV-32TS46 ONLY

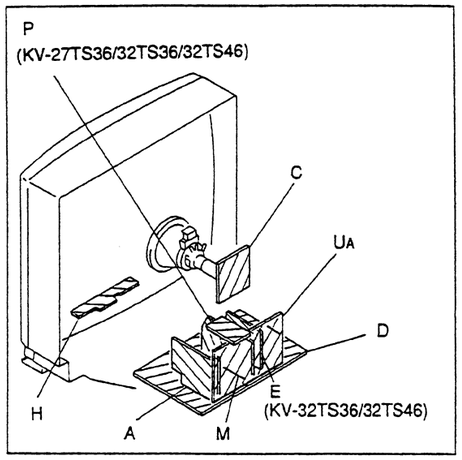
MC-Service


V901
PICTURE TUBE
KG KB G2
H
CV KR G1 G4 HV
FOR CHECK
CHKCA 1
CC H/D 2
ABL 3
+B 4
N.C. 5
R OUT 6
B OUT 7
E 8
B INT 9
B DAT 10
B CLK 11
CN104 11P :BTOB-S
CN105 6P WHT :MINI
1000V 1
200V 2
E 3
N.C. 4
H1 5
H2 6
CN702 6P WHT :MINI LOCK
CN701 1P
E 1
C
CN703 8P WHT-L :S-MICRO
R 1
G 2
B 3
VCC (9V) 4
E 5
IK 6
SCREEN 7
V BLK 8
CN129 8P WHT-L :S-MICRO
CN107 6P WHT :BY
A1 A2 A3 A4 A5 A6
H. DY (+)
H. DY (+)
H. DY (-)
H. DY (-)
V. DY (-)
V. DY (+)
CN108 10P :BTOB-P
CN109 10P :BTOB-P
KV-32TS36/32T
H
CN155 8P REB-L :S-MICRO
CN154 5P WHT-L :S-MICRO
FRONT L
FRONT R
E
FRONT V
E
STBY 5V
SIRCS
KEY 0
POWER
TIMER LED
STEREO LED
9V
CN138 8P REB :S-MICRO
KV-27TS32/27TS36 /32TS36/32TS46 only
KV-32TS46 only
CN141 5P WHT-L :S-MICRO
CN149 4P WHT-L :S-MICRO
TO ANT SW
ANT SW1
E
ANT SW2
9V
M
CN143 32P :BTOB-S
CN137 32P :BTOB-P
VO
V1
S CLK
S DAT
I-SSW
E
C CH BLOCK
EXT L
DAT
AGC MUTE
DET OUT
AFT
EXT R
MTS MONO
MTS SAP
SET 5V
V PULSE
H PULSE
C V PULSE
YS
Y
C
VAR L
VAR R
MUTE
V2
ST LED
CLK
LAT
CN130 20P :BTOB-S
CN115 20P :BTOB-P
R OUT
B OUT
MUTE
B INT
B DAT
B CLK
DGC CONT
SP MUTE
RESET
12V
CN131 15P :BTOB-S
CN116 15P :BTOB-P
ABL
RELAY
V DRIVE
E/W DRIVE
V BLK
IR 12V
H DRIVE
CN112 2P WHT :MINI
CN113 3P WHT :MINI
CN114 2P :AC
AC IN WH
AC I
Ua
CN147 32P :BTOB-S
MTS SAP
MTS MONO
AFT
DET OUT
AGC MUTE
C TV L
S DAT
S CLK
C DET OUT
MUTE
P TV R
P DET OUT
P TV L
LAT
CLK
ST LED
C LAT
AFT SW
C A MUTE
STBY 9V
C ANT SW
135V
135V
9V
12V
CN144 16P :BTOB-S
CN144 6P WHT-L :S-MICRO
CN134 6P WHT-L :S-MICRO
C OUT
Y OUT
C IN
Y IN
SUB V
S DAT
S CLK
C.V PULSE
H PULSE
V PULSE
C.LAT
C.A MUTE
ANT SW 1
KV-27TS32/27TS36 /32TS36/32TS46 only
KV-32TS46 ONLY
CN150 16P :BTOB-P
P

MC-Service


V901
PICTURE TUBE
KG KB G2
H
CV KR G1 G4 HV
ΘY ASSY
CY
V
H
A6 A5 A7 A8 A4 A3 A2 A1
CN701 1P
CN105 6P WHT :MINI
1000V 1
200V 2
E 3
N.C. 4
H1 5
H2 6
CN702 6P WHT :MINI CLOCK
CN703 8P WHT-L :S-MICRO
R G B VCC (9V) E IK SCREEN V BLK
CN129 8P WHT-L :S-MICRO
C
CN107 6P WHT :ΘY
H. ΘY (+)
H. ΘY (+)
H. ΘY (-)
H. ΘY (-)
V. ΘY (-)
V. ΘY (+)
KV-32TS36/32TS46 only
CN108 10P :BTOB-P
CN122 10P :BTOB-S
CS1
CS1
CS2
CS2
CS3
CS3
CS4
CS4
HΘR1
HΘR2
CY+
CY-
CY-
ΘY-2 3P WHT :MINI
CN109 10P :BTOB-P
CN123 10P :BTOB-S
E
15V
15V
E
E
H.P
V.BLK
E
S.ΘAT
S.CLK
E
E
15V
15V
E
E
H.P
V.BLK
E
S.ΘAT
S.CLK
E
CN138 8P REC :S-MICRO
E
STBY 5V
SIRCS
KEY 0
POWER
TIMER LED
STEREO LED
9V
CN163 32P :BTOB-S
CN137 32P :BTOB-P
VO
V1
S CLK
S ΘAT
I-SSW
E
E
C CH BLOCK
EXT L
ΘAT
AGC MUTE
ΘET OUT
AFT
EXT R
MTS MONO
MTS SAP
E
SET 5V
V PULSE
H PULSE
C V PULSE
YS
Y
E
C
VAR L
VAR R
MUTE
V2
ST LED
CLK
LAT
M
CN130 20P :BTOB-S
CN115 20P :BTOB-P
R OUT
B OUT
E
L
R
MUTE
E
B INT
B ΘAT
B CLK
ΘGC CONT
SP MUTE
S ΘAT
S CLK
E
STBY 5V
9V
RESET
12V
E
CN131 15P :BTOB-S
CN116 15P :BTOB-P
ABL
ABL
E
SET 5V
RELAY
E
V ΘRIVE
E/W ΘRIVE
V BLK
IR 12V
E
9V
H ΘRIVE
H PULSE
VP OUT
CHK
CHK
ROR CHECK
CN112 2P WHT :MINI
ΘGC
N.C.
ΘGC
ΘGC
CN113 3P WHT :MINI
CN134 6P WHT-L :S-MICRO
C.LAT
AFT SW
C.A MUTE
STBY 5V
ANT SW 1
E
XV-32TS46 ONLY
AC IN WHT
AC IN
120V AC 60MHz
CN114 2P :AC

6-3. CIRCUIT BOARDS LOCATION



6-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- All capacitors are in µF unless otherwise noted.
  pF: µµF 50WV or less are not indicated except for electrolytic and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm
Rating electrical power 1/4W

- Chips resistors are 1/10W.
- All resistors are in ohms.
  kΩ=1000Ω, MΩ=1000KΩ
- : nonflammable resistor.
- : fusible resistor.
- △: internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground. (cool)
- : earth-chassis. (hot)
- The components identified by ◪ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪, make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⊠ and repeat the adjustment until the specified value is achieved.
  (Refer to R511 and R524 on page 41, 42)
- When replacing the part in below table be sure to parform the related adjustment.

Part replaced (◪)		Adjustment (⊠)
PM501, R511, R632, R645, R650	D BOARD	HOLD-DOWN (R511)
R338	M BOARD	
IC601, PM501, D504, C598 R509, R524, R632, R635, R645, T501	D BOARD	HOLD-DOWN (R524)
R338	M BOARD	

- All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- Circled numbers are waveform references.
- : B+ line.
- : B– line.
- : signal path.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

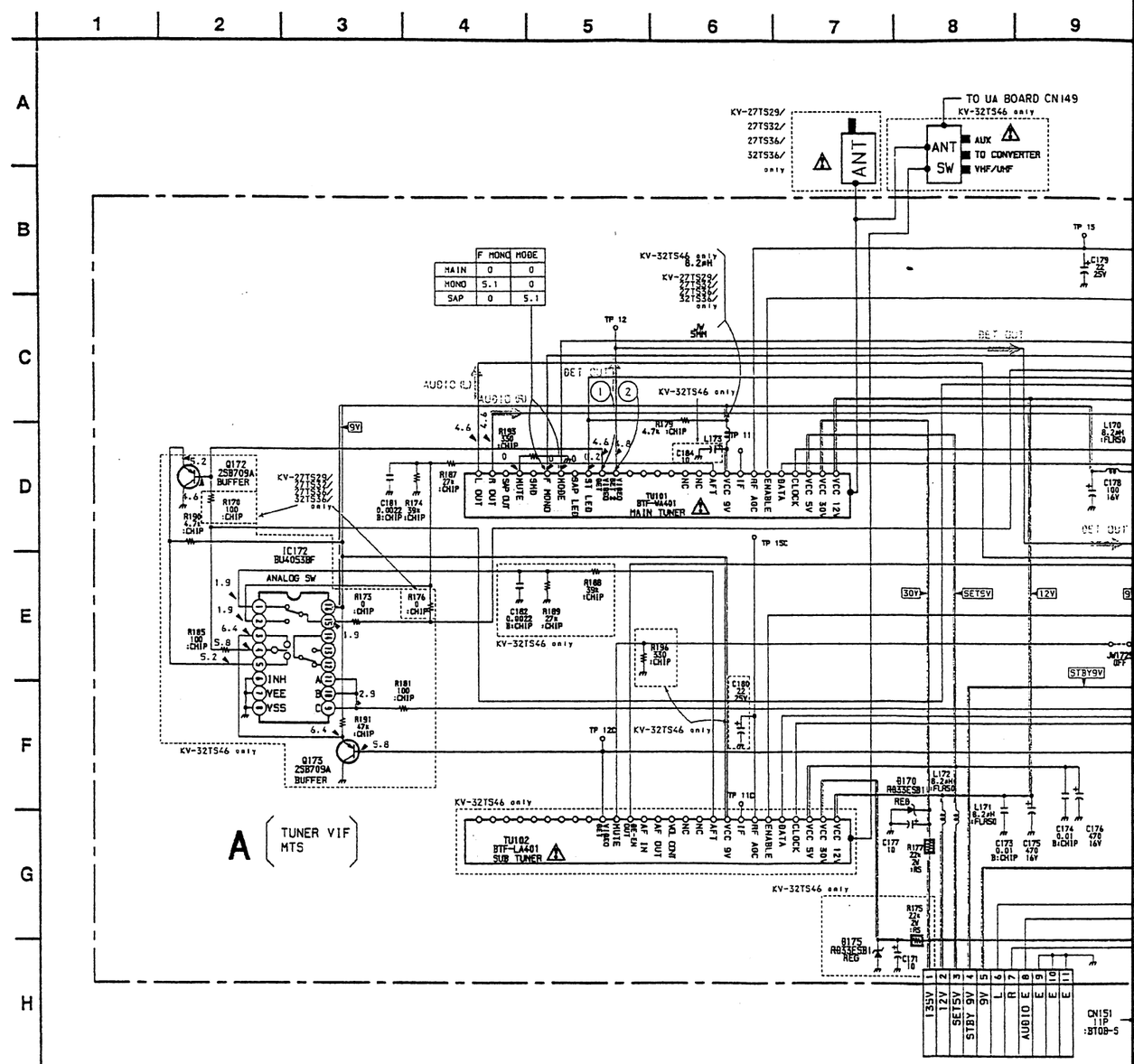
Note: The symbol display is on the component side.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

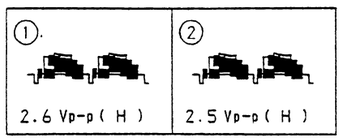
The symbol indicate fast operating fuse. Replace only with fuse of same rating as marked.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

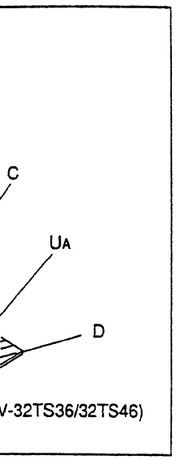
Le symbole indique une fusible a action rapide. Doit etre remplacee par une fusible de meme yaleur, comme maque.



— A Board —



ATION



RDS AND
S

vise noted.
ed except for electrolytic

erwise specified.
not have one for rating

ent for repair.
ave characteristic curve

this manual have been
set in order to satisfy

lace only with the value

ied by ◪, make the
results do not meet the
nt identified by ⊠ and
ed value is achieved.
, 42)
e be sure to parform the

Part replaced (◪)	Adjustment (⊠)
PM501, R511, R632, R645, R650 } D BOARD R338 M BOARD	HOLD-DOWN (R511)
IC601, PM501, D504, C598 R509, R524, R632, R635, R645, T501 } D BOARD R338 M BOARD	HOLD-DOWN (R524)

- All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- Circled numbers are waveform references.
- ▭ : B+ line.
- ▭ : B– line.
- ▨ : signal path.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

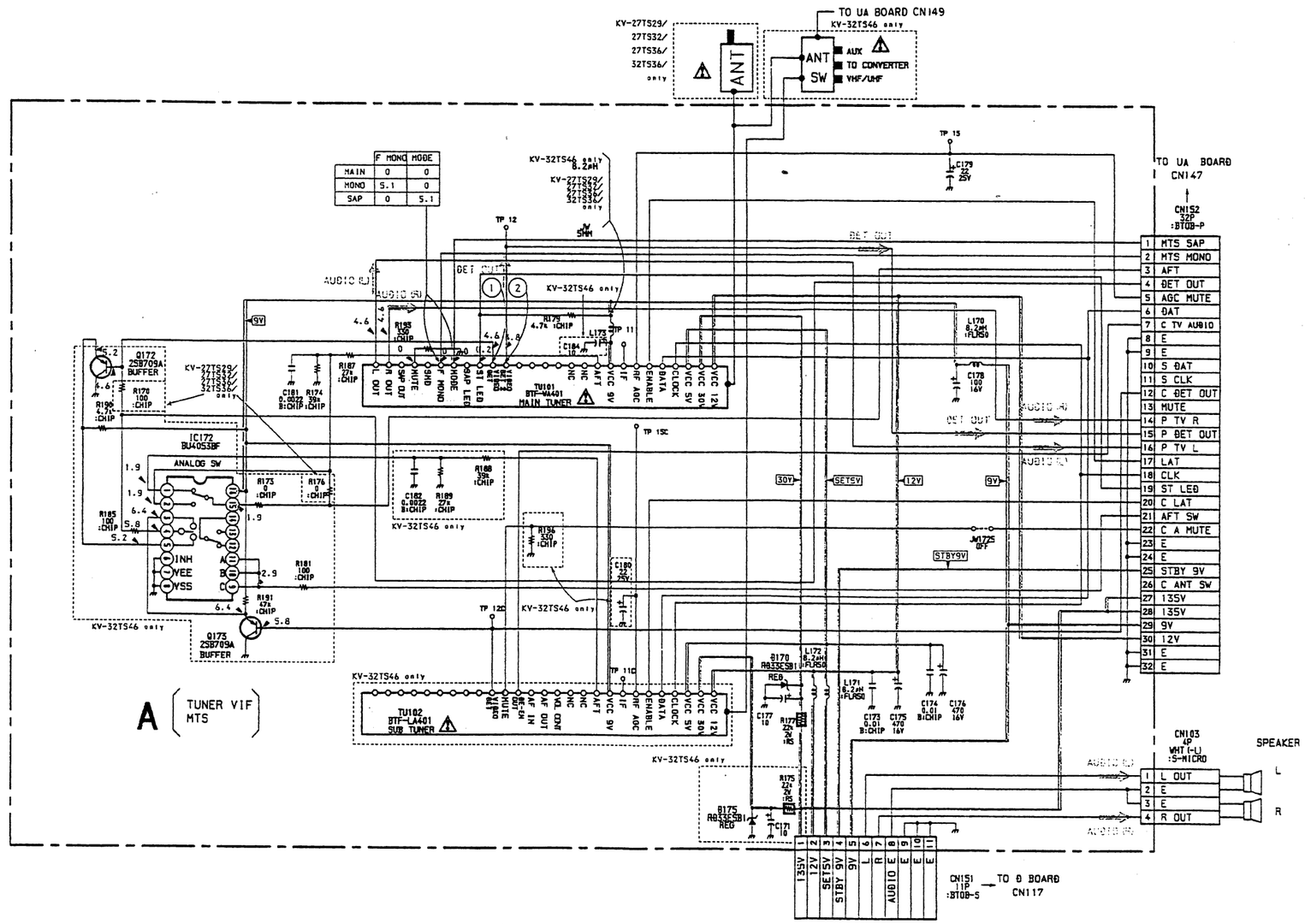
Note: The symbol ⊟ display is on the component side.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

The symbol ⊟ indicate fast operating fuse. Replace only with fuse of same rating as marked.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

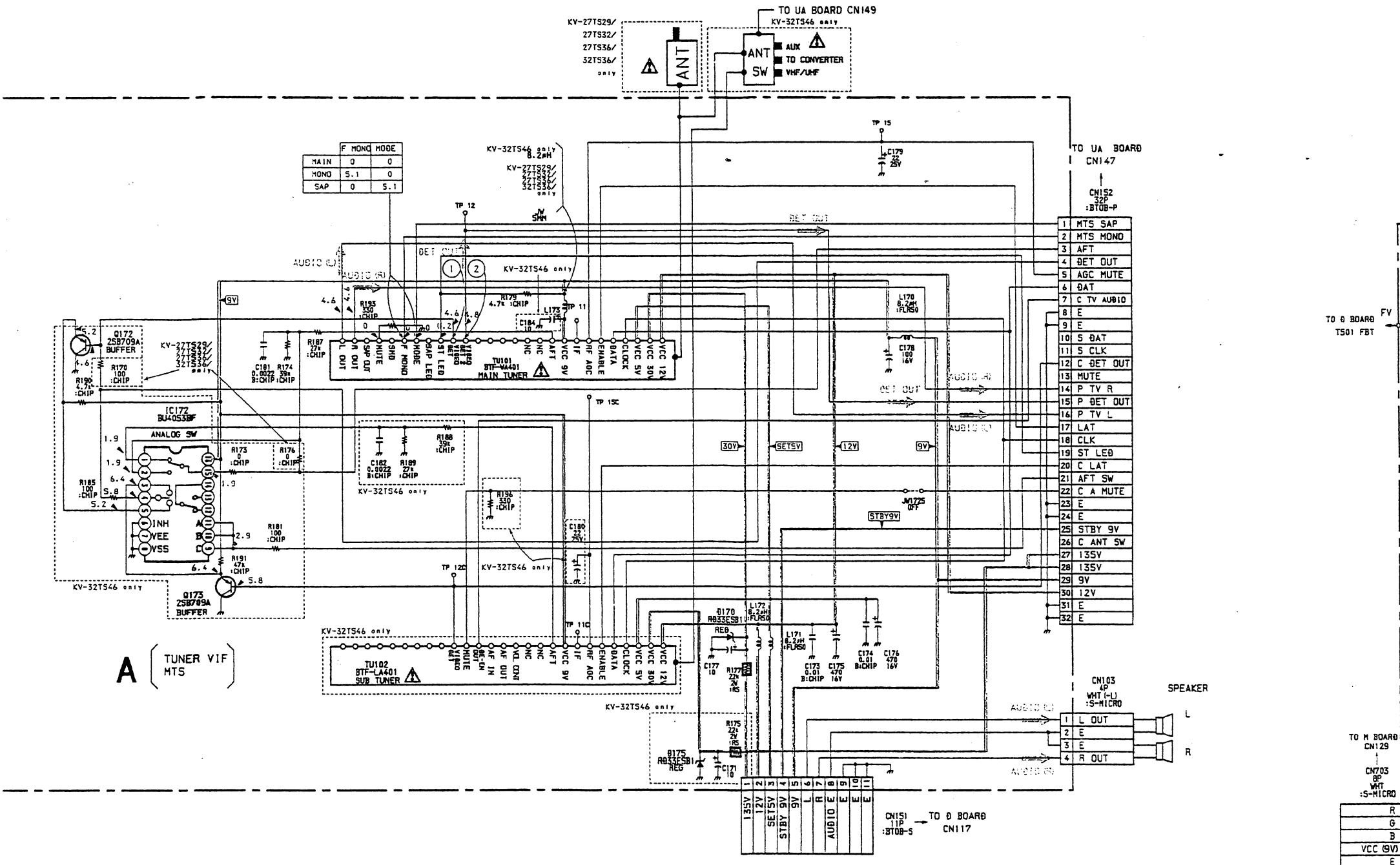
Le symbole ⊟ indique une fusible a action rapide. Doit etre remplacee par une fusible de meme yaleur, comme maque.



— A Board —

①	②
2.6 Vp-p (H)	2.5 Vp-p (H)

MC-Service



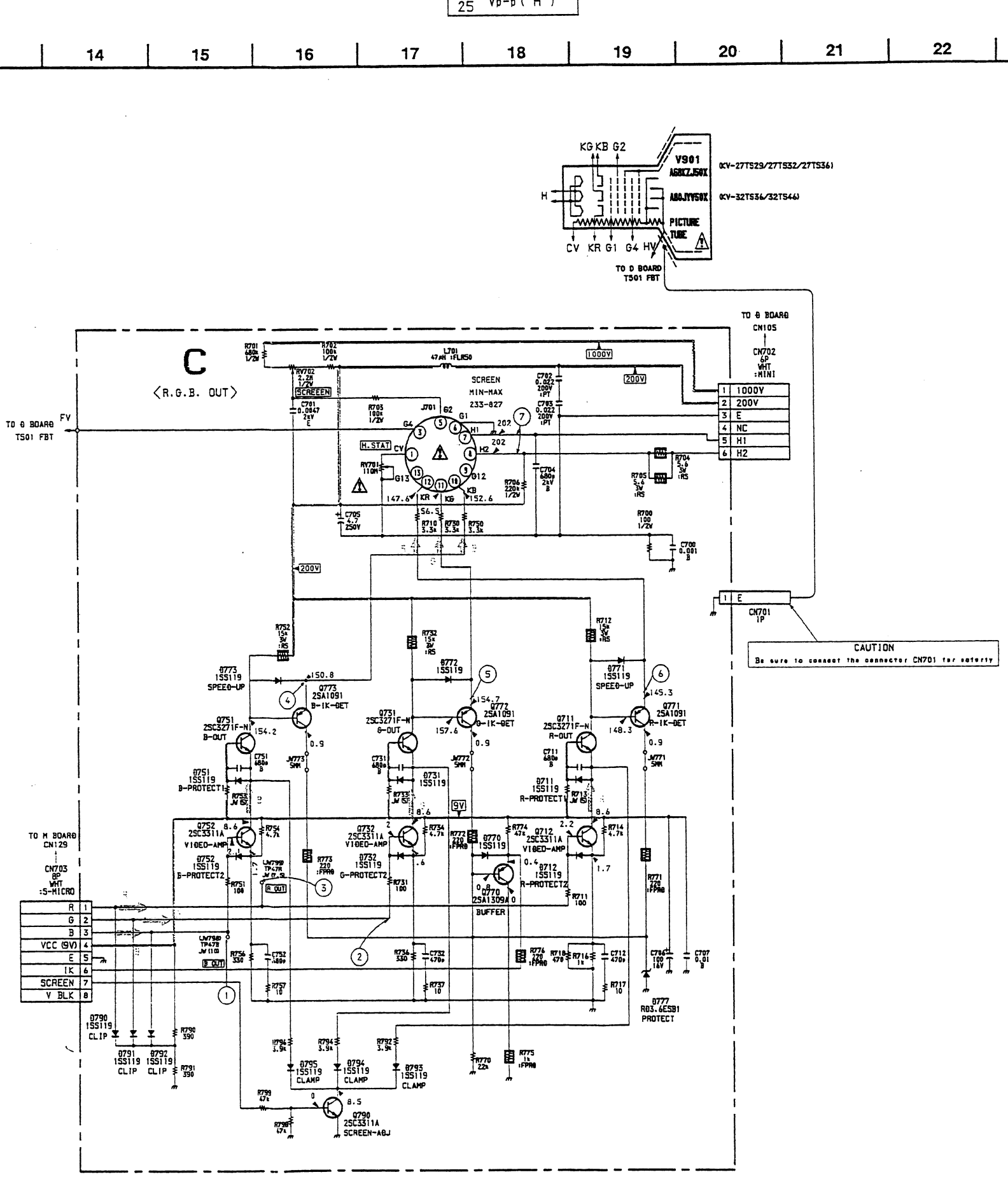
— A Board —

①	②
2.6 Vp-p (H)	2.5 Vp-p (H)

MC-Service

— C Board —

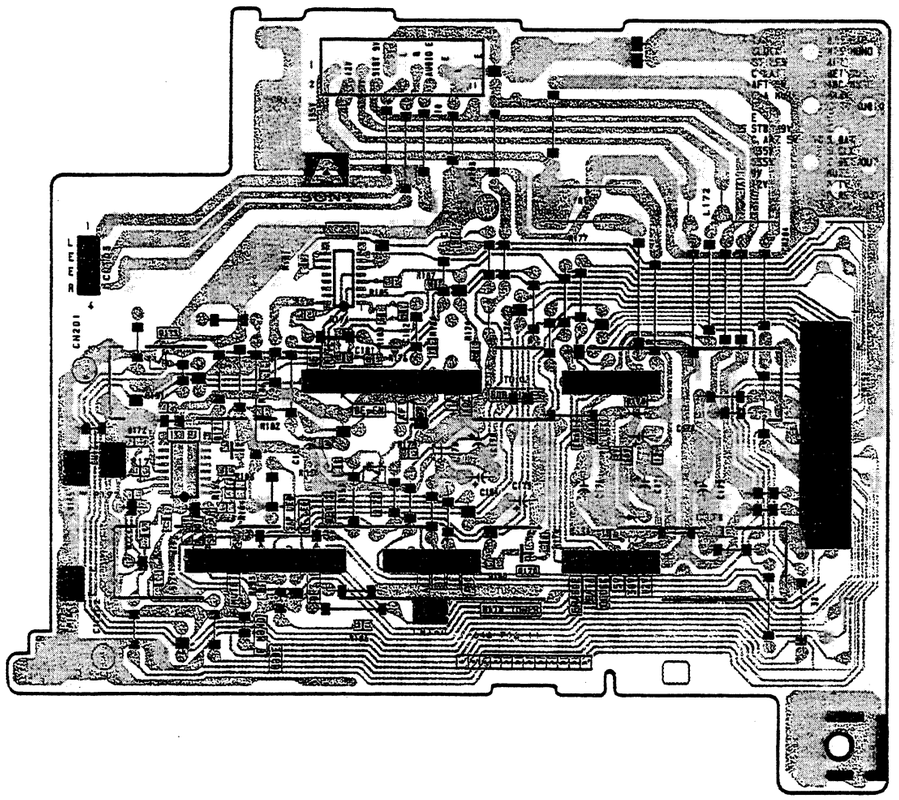
① 5.4 Vp-p (H)	② 5.6 Vp-p (H)	③ 5.6 Vp-p (H)
④ 175 Vp-p (H)	⑤ 180 Vp-p (H)	⑥ 185 Vp-p (H)
⑦ 25 Vp-p (H)		



KV-27TS29/27TS32/27TS36
RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46
RM-Y116 RM-Y118
SA-W200

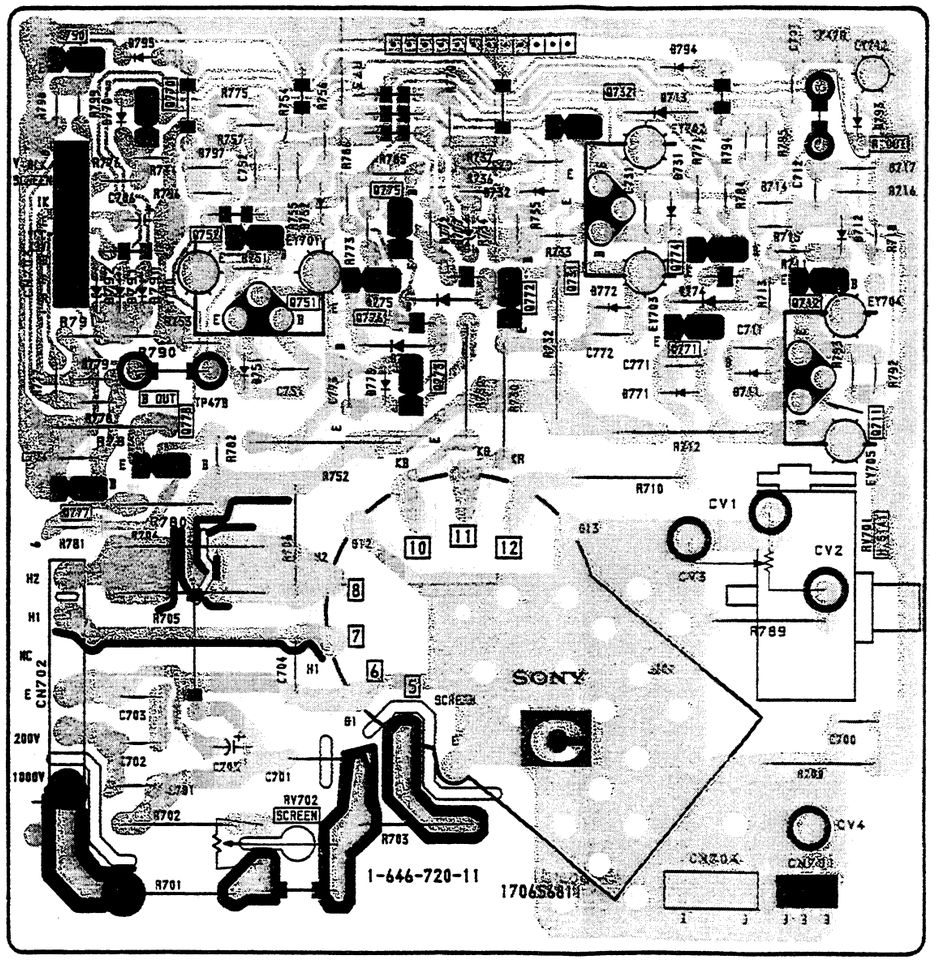
A [TUNER, VIF, MTS]

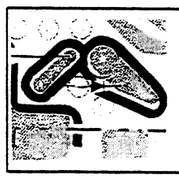
— A Board —



C [R.G.B. OUT]

— C Board —





NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

KV-27TS29/27TS32/27TS36 RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46 RM-Y116 RM-Y118 SA-W200

UA [AV SW, A/V INPUT, AV OUTPUT]

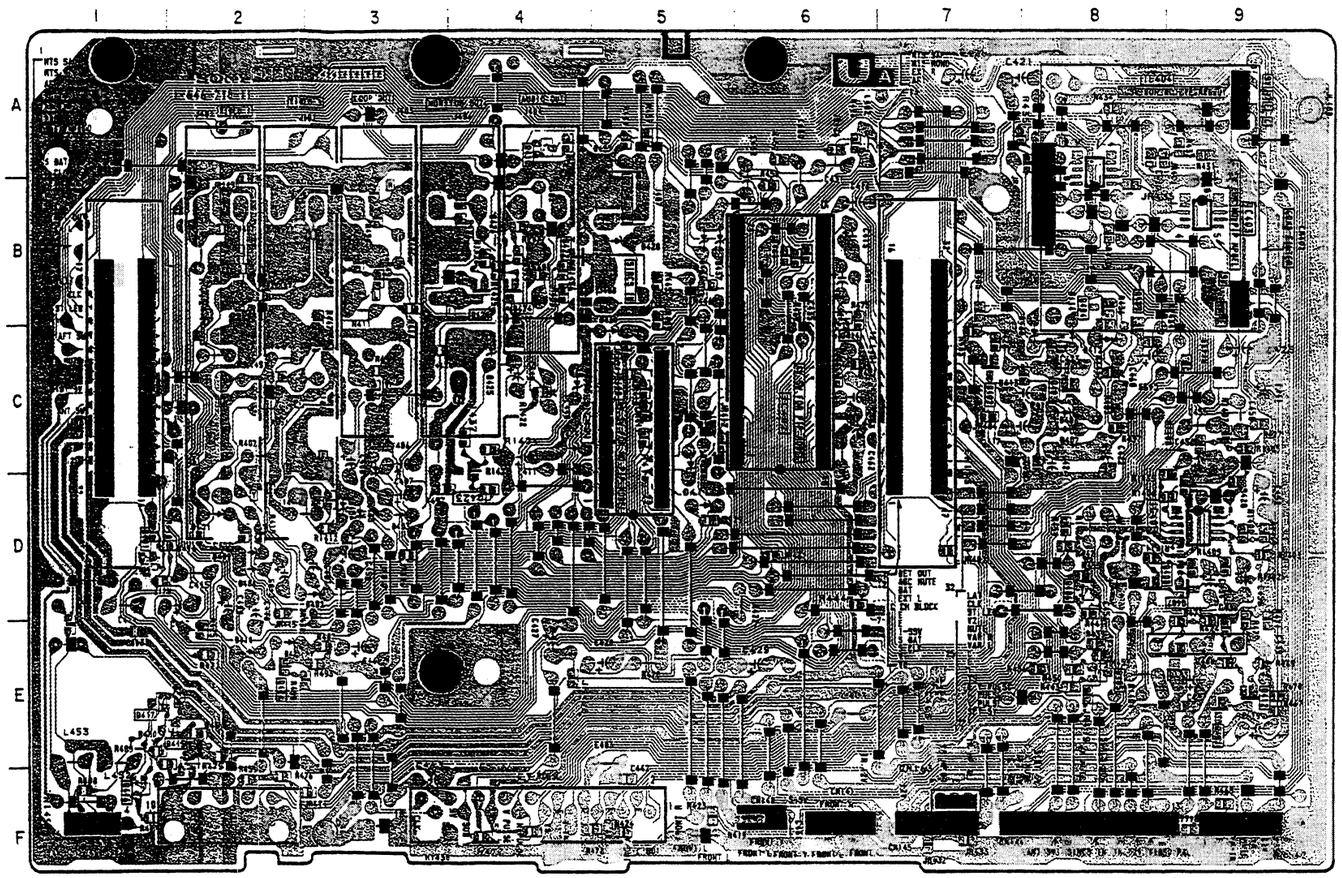
— UA Board —

IC	
IC401	C-5
IC402	C-6
IC403	B-9
IC404	A-8

TRANSISTOR	
Q401	D-1
Q405	E-8
Q406	D-8
Q410	A-4
Q414	B-6
Q415	E-2
Q416	F-1
Q417	E-1
Q418	E-1

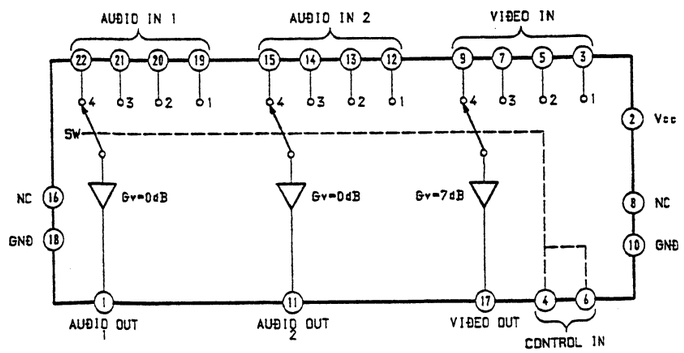
DIODE	
D401	D-2
D402	D-3
D405	C-4
D408	D-2
D436	B-5
D437	B-5

— UA Board —

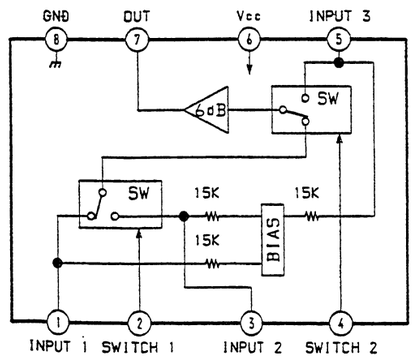


MC-Service

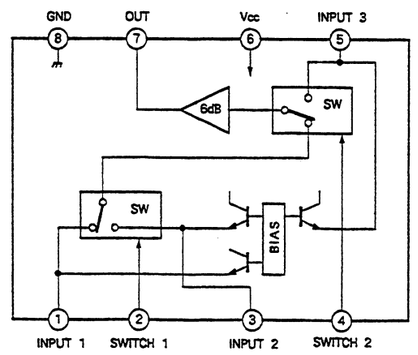
UA Board IC401 M5470AP



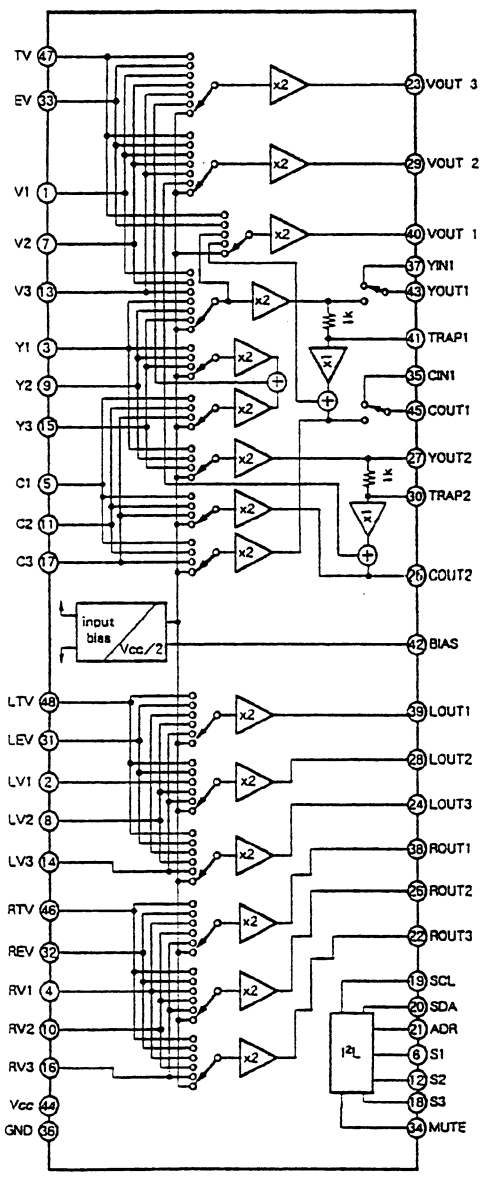
UA Board IC403 MM1114XFF



UA Board IC404 MM1118XFF

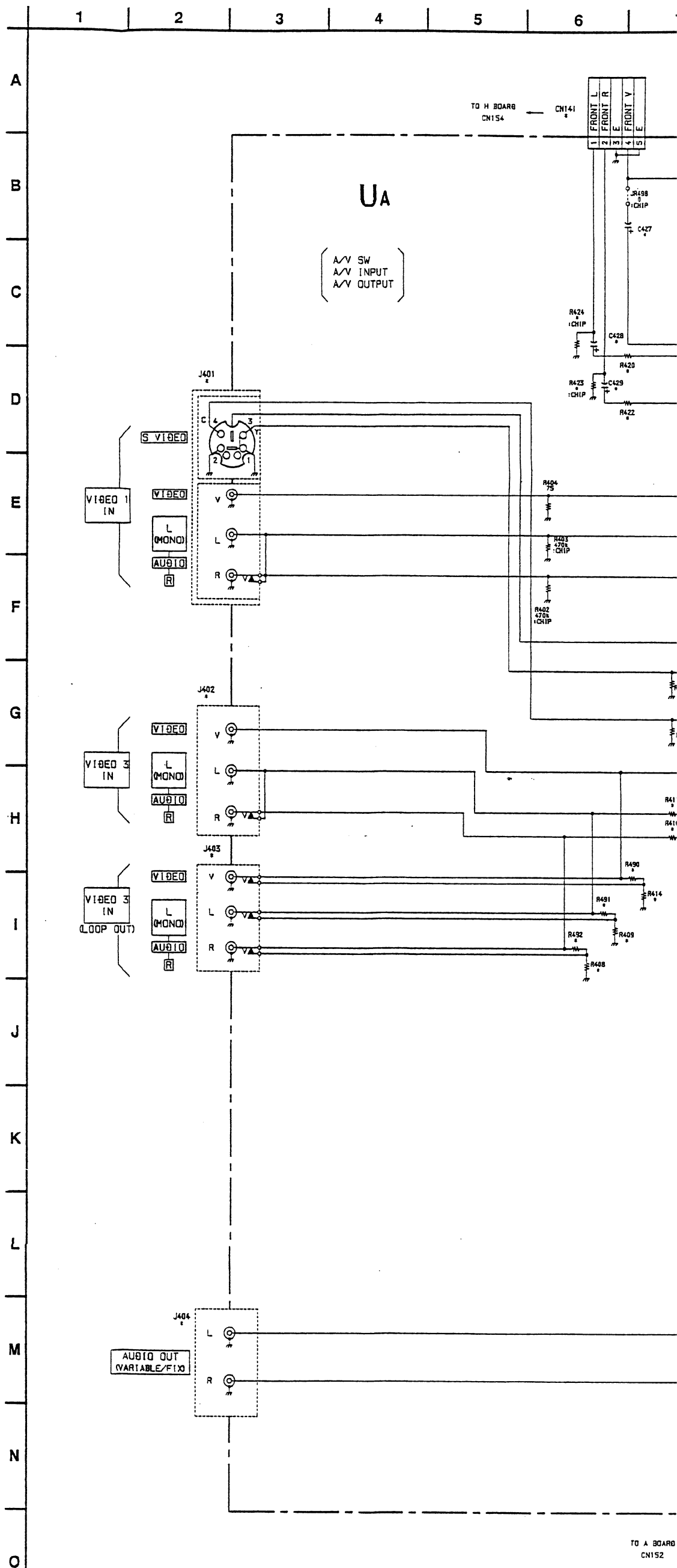


UA Board IC402 CXA1545AS



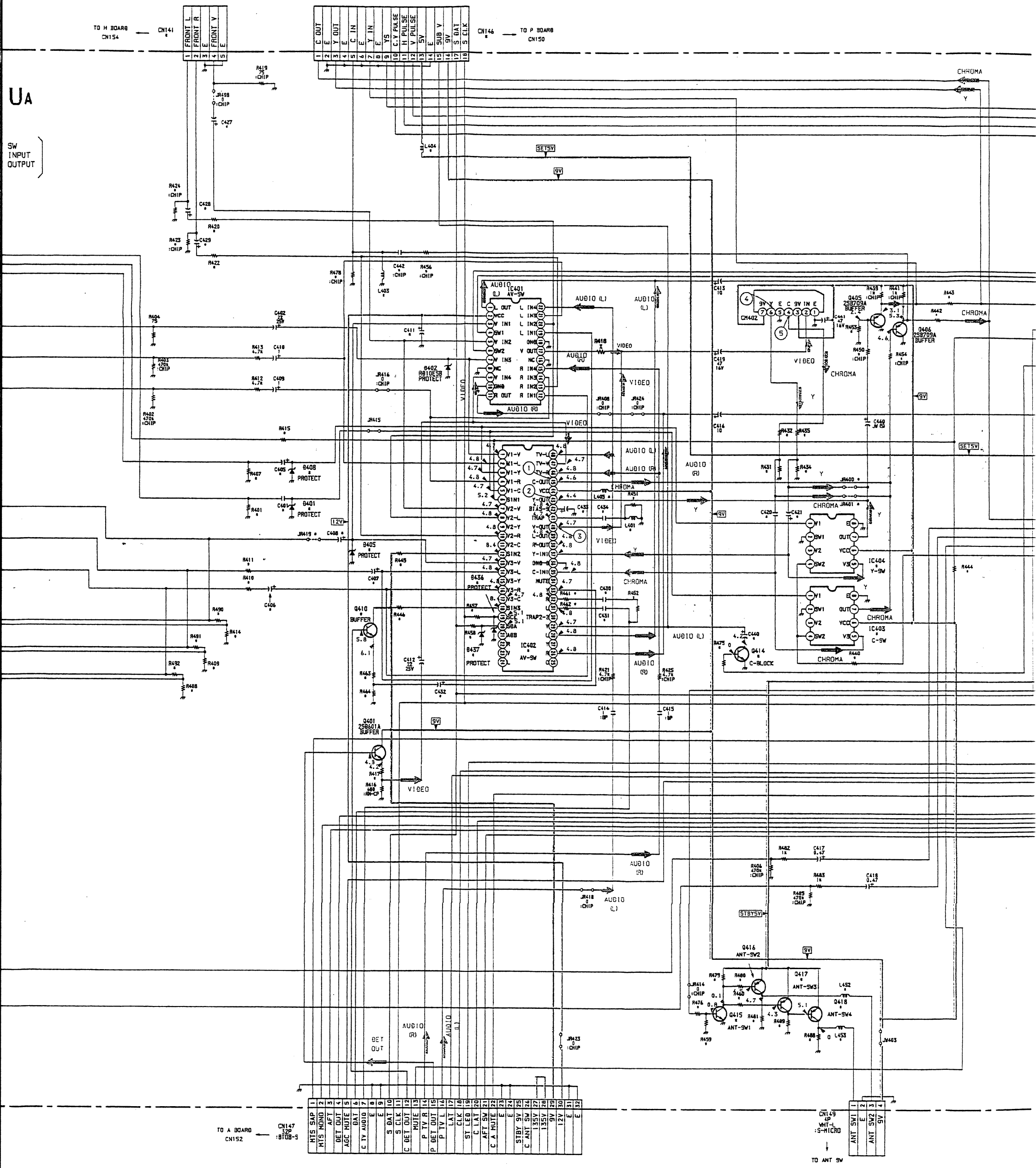
— UA Board —

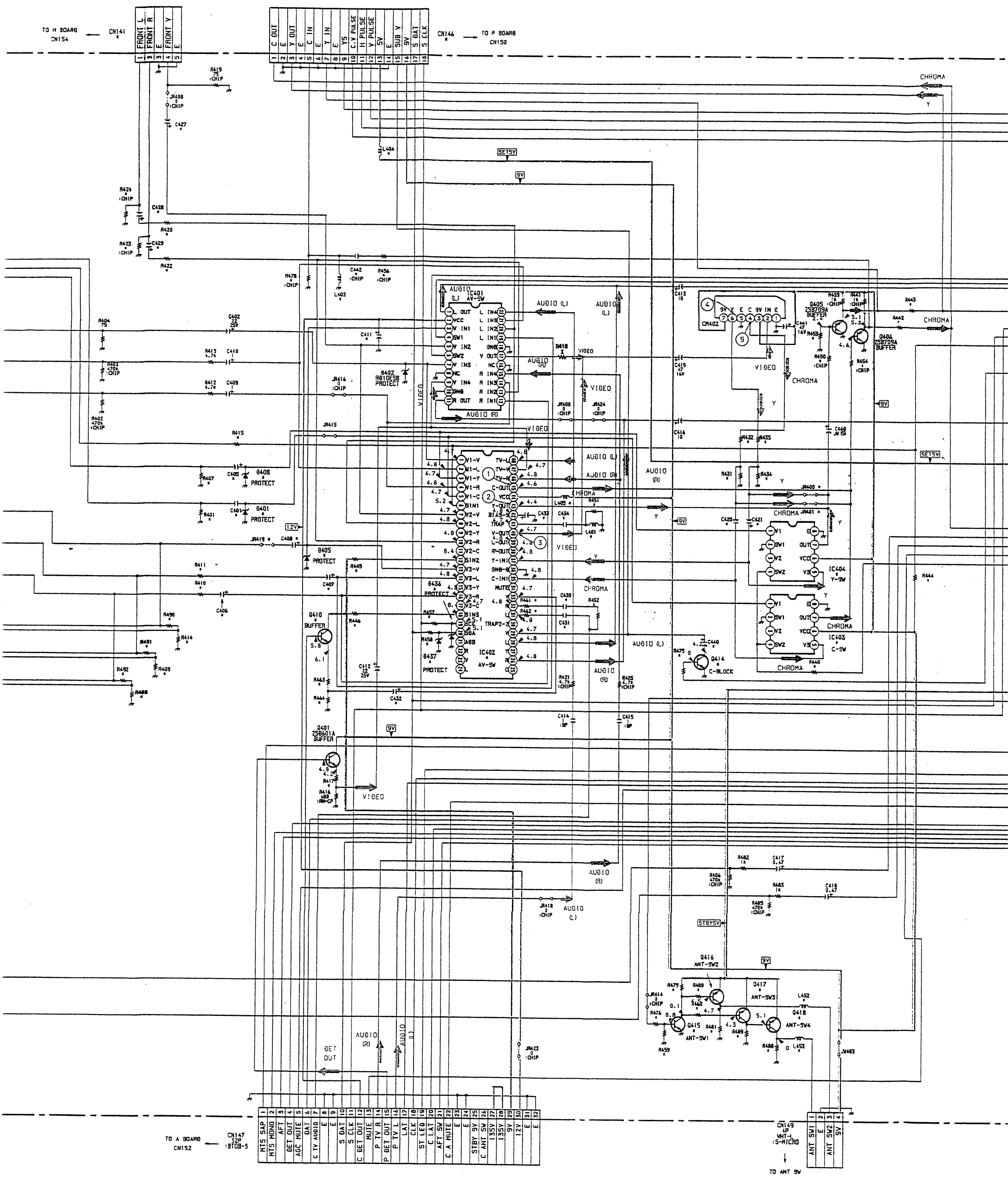
① 2.2 Vp-p (H)	② 2.3 Vp-p (H)	③ 2.6 Vp-p (H)
④ 2.4 Vp-p (H)	⑤ 2.6 Vp-p (H)	

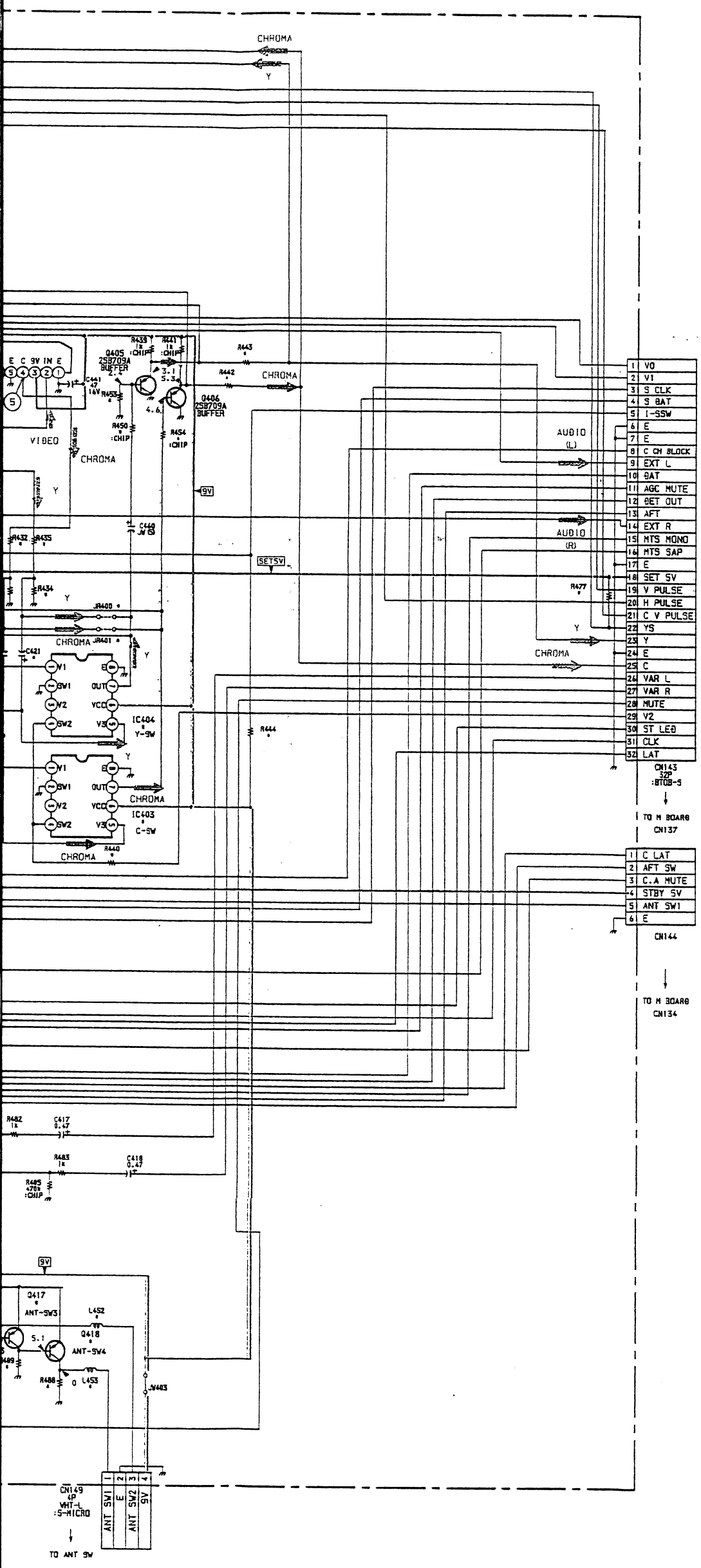


UA

SW
INPUT
OUTPUT

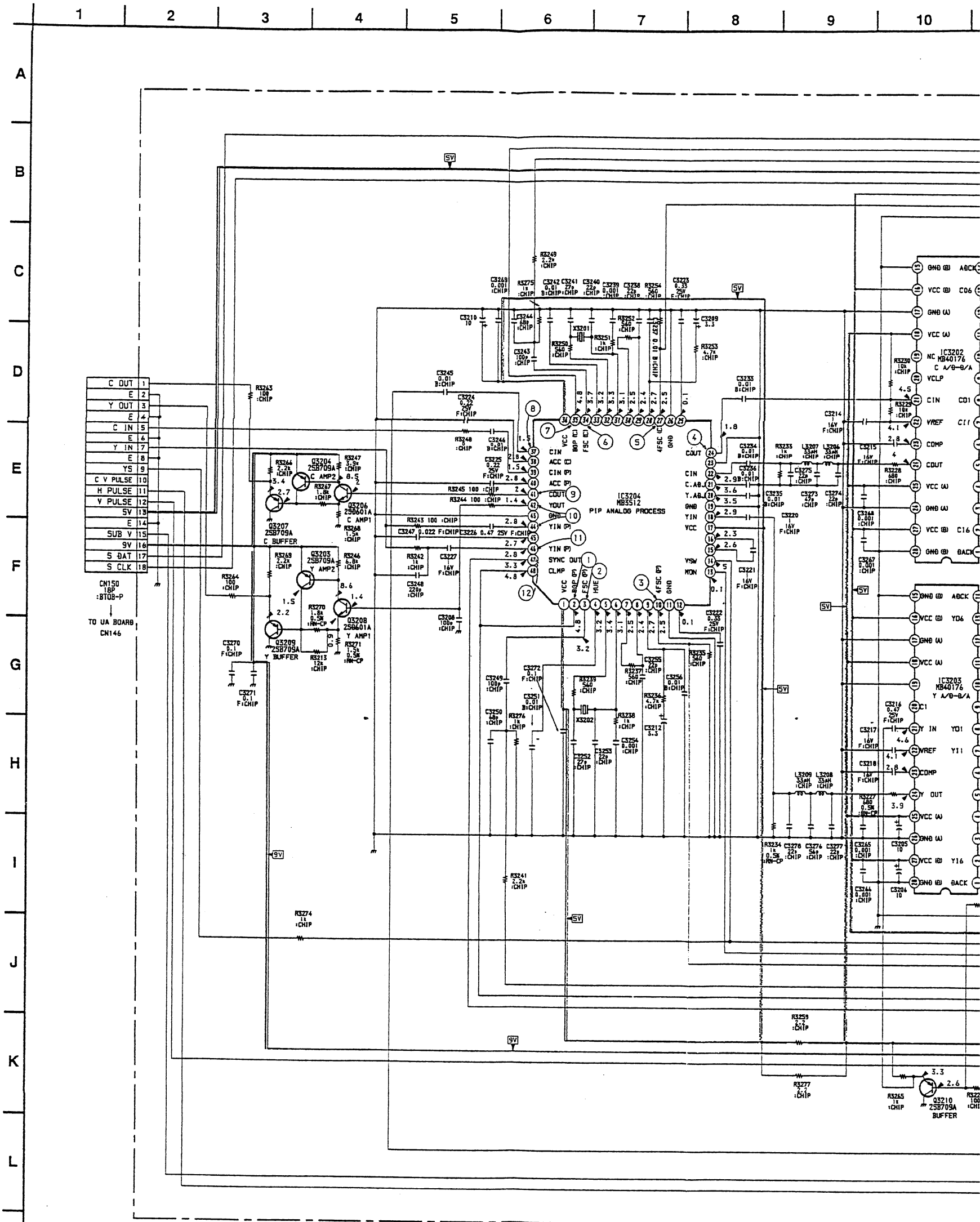



TO H BOARD CN154
CN141
FRONT L
FRONT R
FRONT V
CN144
TO P BOARD CN150
C OUT
Y OUT
C IN
Y IN
YS
C.V PULSE
H PULSE
V PULSE
SV
SUB V
9V
S DAT
S CLK
CHROMA
Y
SETSV
9V
IC401 AV-SW
AUDIO (L)
AUDIO (R)
VIDEO
IC402 AV-SW
IC403 C-SW
IC404 Y-SW
CM402
Q405 2SB709A BUFFER
Q406 2SB709A BUFFER
Q408 PROTECT
Q401 PROTECT
Q405 PROTECT
Q436 PROTECT
Q437 PROTECT
Q410 BUFFER
Q401 2SB601A BUFFER
Q414 C-BLOCK
Q416 ANT-SW2
Q417 ANT-SW3
Q418 ANT-SW4
Q415 ANT-SW1
12V
STBYSV
TO A BOARD CN152
CN147 3ZP :BTOB-S
MTS SAP
MTS MONO
AFT
DET OUT
AGC MUTE
DAT
C TV AUDIO
S DAT
S CLK
C DET OUT
MUTE
P TV R
P DET OUT
P TV L
LAT
CLK
ST LED
C LAT
AFT SW
C A MUTE
STBY 9V
C ANT SW
135V
9V
12V
CN149 4P WHT-L :S-MICRO
TO ANT SW
ANT SW1
ANT SW2
9V



— UA Board —

	KV-32TS46	KV-27TS36 KV-32TS36	KV-27TS32	KV-27TS29
C401	0.01 F: CHIP	0.01 F: CHIP	0.01 F: CHIP	-
C405	22 25V	22 25V	22 25V	-
C406	1	1	1	-
C407	1	1	1	-
C408	22 25V	22 25V	22 25V	-
C411	-	-	100 25V	100 25V
C420	0.01 F: CHIP	0.01 F: CHIP	0.01 F: CHIP	-
C421	22 25V	22 25V	0.47	-
C427	JW (5)	JW (5)	JW (5)	-
C428	JW (5)	JW (5)	JW (5)	-
C429	JW (5)	JW (5)	JW (5)	-
C430	1	-	-	-
C431	1	-	-	-
C432	22 25V	-	-	-
C433	33 25V	33 25V	-	-
C434	100P : CHIP	100P : CHIP	-	-
C440	10	10	-	-
C442	100P : CHIP	100P : CHIP	-	-
CN141	5P WHT-L : S-MICRO	5P WHT-L : S-MICRO	5P WHT-L : S-MICRO	-
CN144	6P WHT-L : S-MICRO	-	-	-
CN146	18P : BTOB-S	18P : BTOB-S	-	-
CN149	4P WHT-L : S-MICRO	-	-	-
D401	RD10ESB	RD10ESB	RD10ESB	-
D405	RD10ESB	RD10ESB	RD10ESB	-
D408	RD10ESB	RD10ESB	RD10ESB	-
D436	RD10ESB	RD10ESB	-	-
D437	RD10ESB	RD10ESB	-	-
IC401	-	-	M52470AP	M52470AP
IC402	CXA1545AS	CXA1545AS	-	-
IC403	-	-	MM1114XFF	-
IC404	-	-	MM1118XFF	-
J401	S TERMINAL BLOCK	S TERMINAL BLOCK	S TERMINAL BLOCK	PIN JACK BLOCK
J402	PIN JACK BLOCK	PIN JACK BLOCK	PIN JACK BLOCK	-
J403	-	-	PIN JACK BLOCK	-
JR400	-	-	-	0 : CHIP
JR401	-	-	-	0 : CHIP
JR415	0 : CHIP	0 : CHIP	0 : CHIP	-
JR419	0 : CHIP	0 : CHIP	0 : CHIP	-
JW403	10MM	-	-	-
L401	18uH : FLR50	18uH : FLR50	-	-
L403	33uH : FLR50	33uH : FLR50	-	-
L404	JW (5)	JW (5)	-	-
L405	JW (5)	JW (5)	-	-
L452	JW (5)	-	-	-
L453	JW (5)	-	-	-
Q410	2SD601A	-	-	-
Q414	2SD601A	2SD601A	-	-
Q415	2SD601A	-	-	-
Q416	2SB709A	-	-	-
Q417	2SB709A	-	-	-
Q418	2SB709A	-	-	-
R401	75 : CHIP	75 : CHIP	75 : CHIP	-
R407	75 : CHIP	75 : CHIP	75 : CHIP	-
R408	470K : CHIP	470K : CHIP	470K : CHIP	-
R409	470K : CHIP	470K : CHIP	470K : CHIP	-
R410	4.7K	4.7K	4.7K	-
R411	4.7K	4.7K	4.7K	-
R414	75 : CHIP	75 : CHIP	75 : CHIP	-
R415	4.7K : CHIP	4.7K : CHIP	4.7K : CHIP	-
R417	560 : RN-CP	560 : RN-CP	470 : RN-CP	470 : RN-CP
R418	-	-	100 : CHIP	100 : CHIP
R420	JW (5)	JW (5)	JW (5)	-
R422	JW (5)	JW (5)	JW (5)	-
R431	1K : CHIP	1K : CHIP	680 : CHIP	1K : CHIP
R432	0 : CHIP	0 : CHIP	680 : CHIP	0 : CHIP
R434	1K : CHIP	1K : CHIP	680 : CHIP	1K : CHIP
R435	0 : CHIP	0 : CHIP	680 : CHIP	0 : CHIP
R440	-	-	100 : CHIP	-
R442	-	-	100 : CHIP	100 : CHIP
R443	-	-	100 : CHIP	100 : CHIP
R444	82K : CHIP	82K : CHIP	82K : CHIP	-
R445	10K : CHIP	10K : CHIP	-	-
R446	10K : CHIP	10K : CHIP	-	-
R450	470 : CHIP	470 : CHIP	100 : CHIP	100 : CHIP
R451	4.7K : CHIP	4.7K : CHIP	-	-
R452	100 : CHIP	-	-	-
R453	-	-	820 : RN-CP	820 : RN-CP
R454	0 : CHIP	0 : CHIP	100 : CHIP	100 : CHIP
R456	470 : CHIP	470 : CHIP	-	-
R457	220 : CHIP	220 : CHIP	-	-
R458	220 : CHIP	220 : CHIP	-	-
R459	22K : CHIP	-	-	-
R460	330 : CHIP	-	-	-
R461	4.7K : CHIP	-	-	-
R462	4.7K : CHIP	-	-	-
R463	680 : CHIP	-	-	-
R464	680 : CHIP	-	-	-
R475	1K : CHIP	1K : CHIP	-	-
R476	22K : CHIP	-	-	-
R477	-	-	1K : CHIP	1K : CHIP
R478	470 : CHIP	470 : CHIP	-	-
R479	22K : CHIP	-	-	-
R480	22K : CHIP	-	-	-
R481	22K : CHIP	-	-	-
R488	22K : CHIP	-	-	-
R489	22K : CHIP	-	-	-
R490	0 : CHIP	0 : CHIP	-	-
R491	0 : CHIP	0 : CHIP	-	-
R492	0 : CHIP	0 : CHIP	-	-


1 2 3 4 5 6 7 8 9 10
A B C D E F G H I J K L M N O P
C OUT 1
E 2
Y OUT 3
E 4
C IN 5
E 6
Y IN 7
E 8
YS 9
C V PULSE 10
H PULSE 11
V PULSE 12
5V 13
E 14
SUB V 15
9V 16
S DAT 17
S CLK 18
CN150
18P
:BTOB-P
TO UA BOARD
CN146
IC3204
MB3512
PIP ANALOG PROCESS
IC3202
MB40176
C A/B-B/A
IC3203
MB40176
Y A/B-B/A
Q3204
2SB709A
C AMP2
Q3206
2SB601A
C AMP1
Q3207
2SB709A
C BUFFER
Q3203
2SB709A
Y AMP2
Q3208
2SB601A
Y AMP1
Q3209
2SB709A
Y BUFFER
Q3210
2SB709A
BUFFER
X3201
X3202
5V
9V

MC-Service

P 〈PICTURE IN PICTURE〉

IC3201
MB86144
PIP CONTROLLER

IC3202
MB40176
C A/B-B/A

IC3203
MB40176
Y A/B-B/A

IC3205
TC7SU04F
INVERTER

IC3200
MB81461B
MEMORY

Q3201
2SB709A
BUFFER

Q3202
2SD601A
BUFFER

Q3210
2SB709A
BUFFER

D3202
HVU359
AFC

D3203
MA110
PROTECT

D3208
RB10E5B
PROTECT

D3209
RB10E5B
PROTECT

B-SS4439<U..>-P..

MC-Service

— P Board —

① 5.2 Vp-p (H)

④ 0.8 Vp-p (H)

⑦ 5.2 Vp-p (H)

⑩ 1.3 Vp-p (H)

E021

P 〈PICTURE IN PICTURE〉

IC3201
MB86144
PIP CONTROLLER

IC3202
MB40176
C A/D-S/A

IC3203
MB40176
Y A/D-S/A

IC3200
MB81461B
MEMORY

IC3205
TC7SU04F
INVERTER

Q3201
2SB709A
BUFFER

Q3202
2SB601A
BUFFER

Q3208
RB10E5B
PROTECT

Q3209
RB10E5B
PROTECT

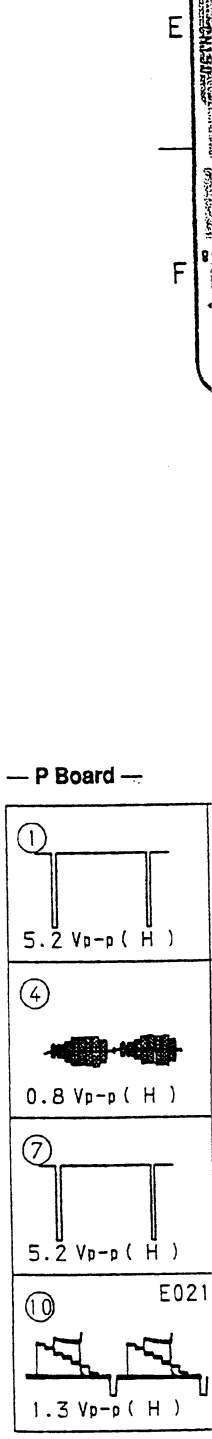
D3203
MA110
PROTECT

Q3202
HVU359
AFC

Q3210
2SB709A
BUFFER

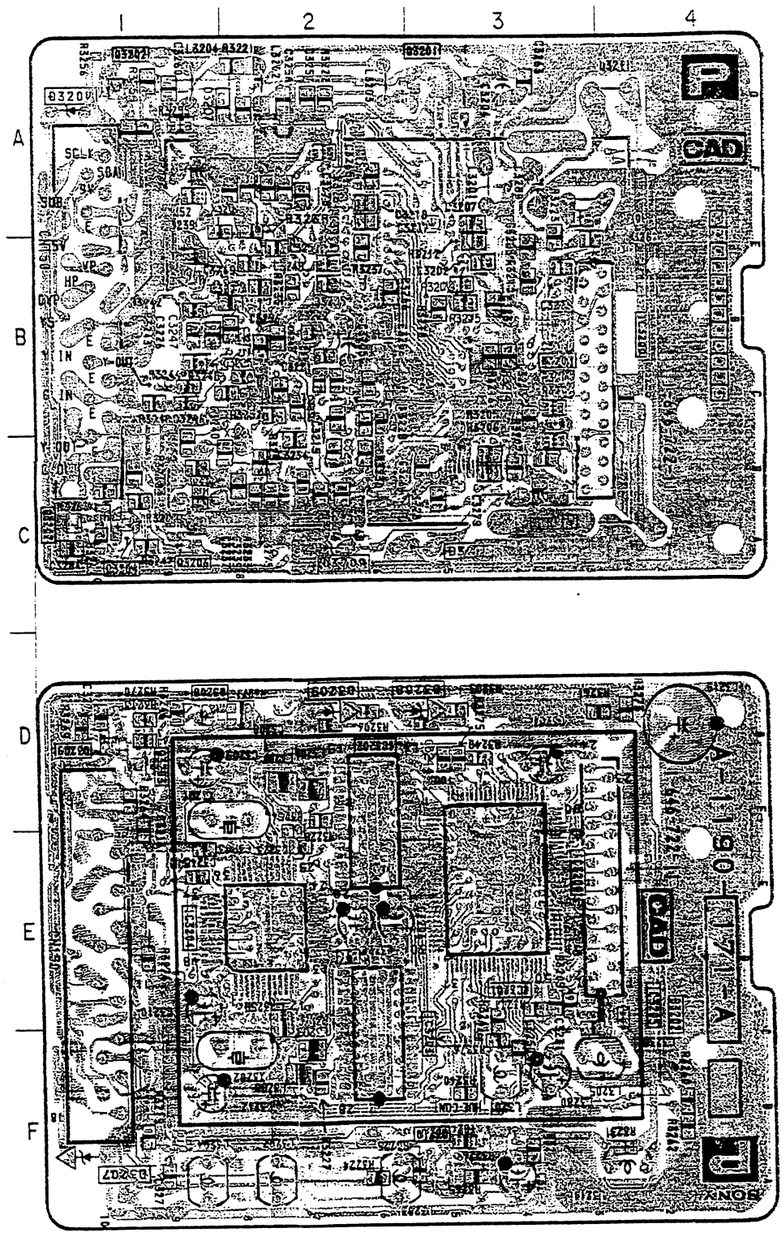
B-SS4439<U..>-P..

MC-Service



P [PICTURE IN PICTURE]

— P Board —



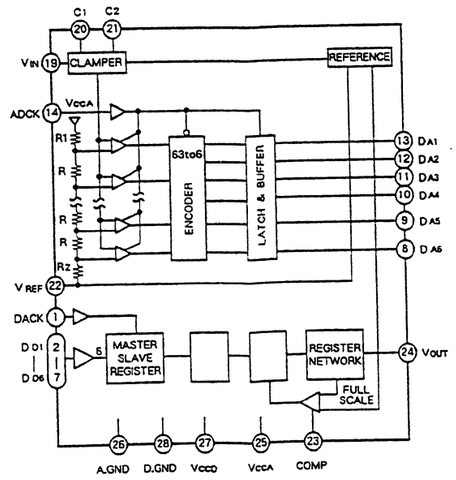
— P Board —

IC	
IC3200	B – 4
IC3201	E – 3
IC3202	D – 2
IC3203	F – 2
IC3204	E – 2
IC3205	E – 3
TRANSISTOR	
Q3201	A – 3
Q3202	A – 1
Q3203	D – 1
Q3204	C – 1
Q3206	C – 1
Q3207	C – 1
Q3208	D – 1
Q3209	D – 1
Q3210	F – 3
DIODE	
D3202	E – 4
D3203	B – 3
D3208	C – 3
D3209	C – 2

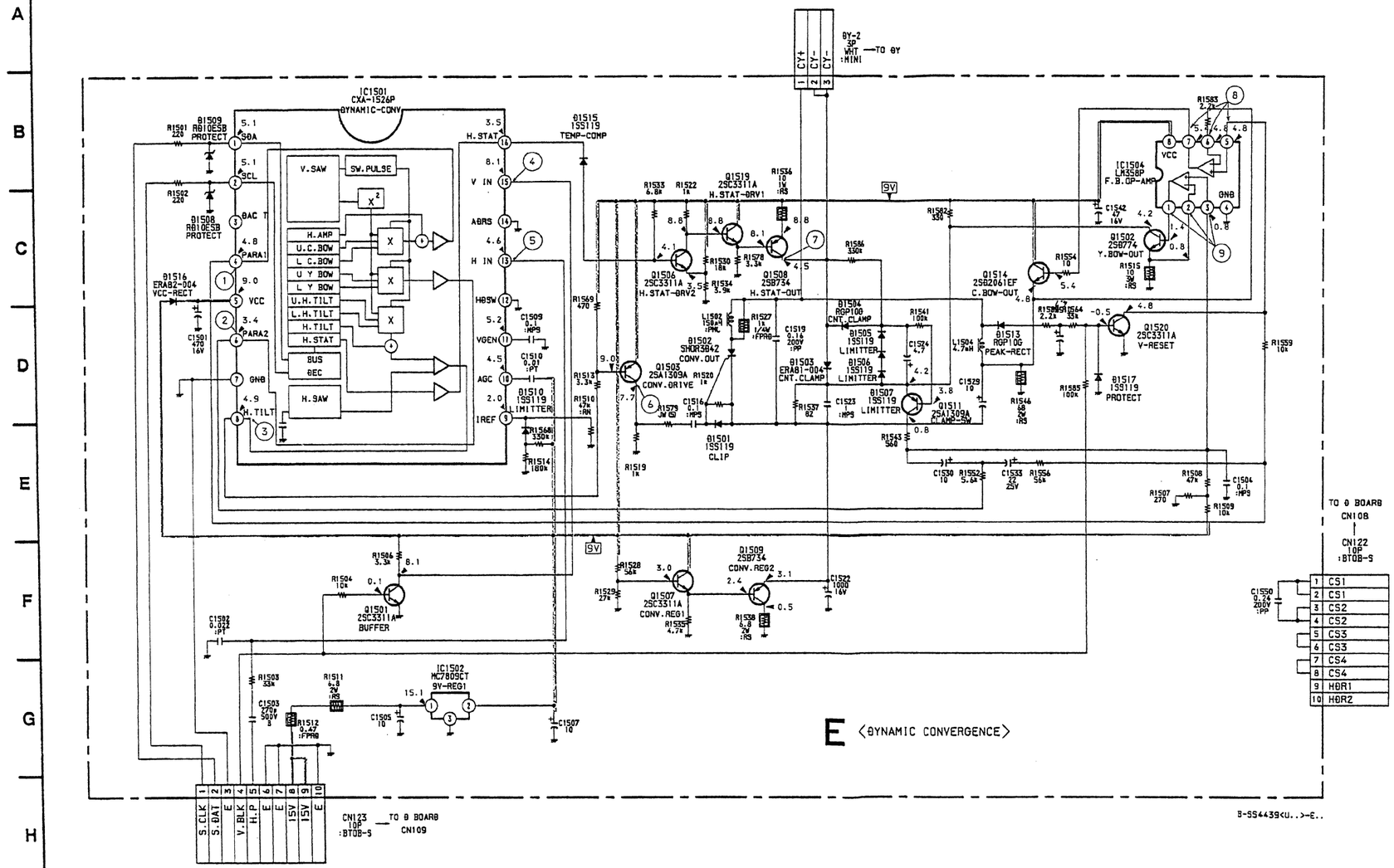
— P Board —

① 5.2 Vp-p (H)	② 1.2Vp-p(3.58MHz)	③ 3.6Vp-p (14.32MHz)
④ 0.8 Vp-p (H)	⑤ 3.5Vp-p(4.3MHz)	⑥ 1.2Vp-p(3.58MHz)
⑦ 5.2 Vp-p (H)	⑧ 1 Vp-p (H)	⑨ 0.7 Vp-p (H)
⑩ E021 1.3 Vp-p (H)	⑪ E021 1 Vp-p (H)	⑫ 5 Vp-p (H)

P Board IC3202, IC3203 MB40176

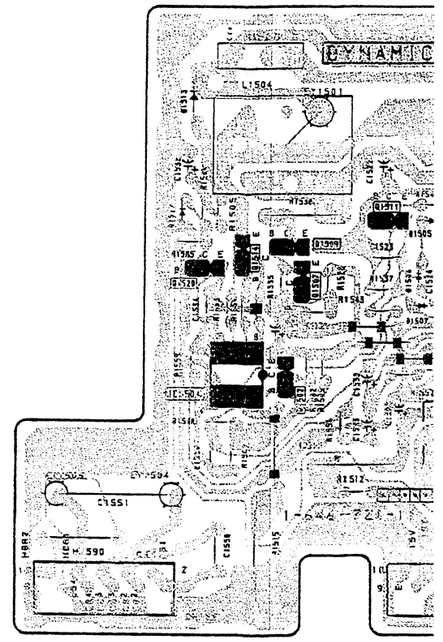


KV-27TS29/27TS32/27TS36 RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46 RM-Y116 RM-Y118 SA-W200

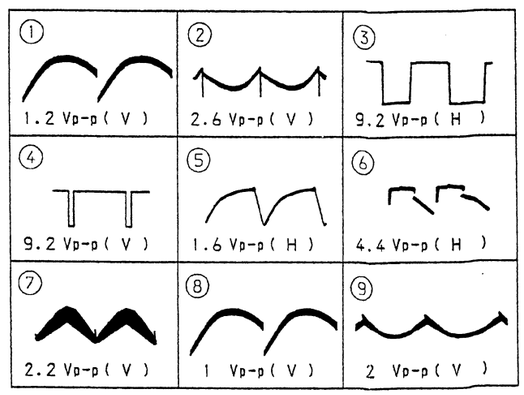


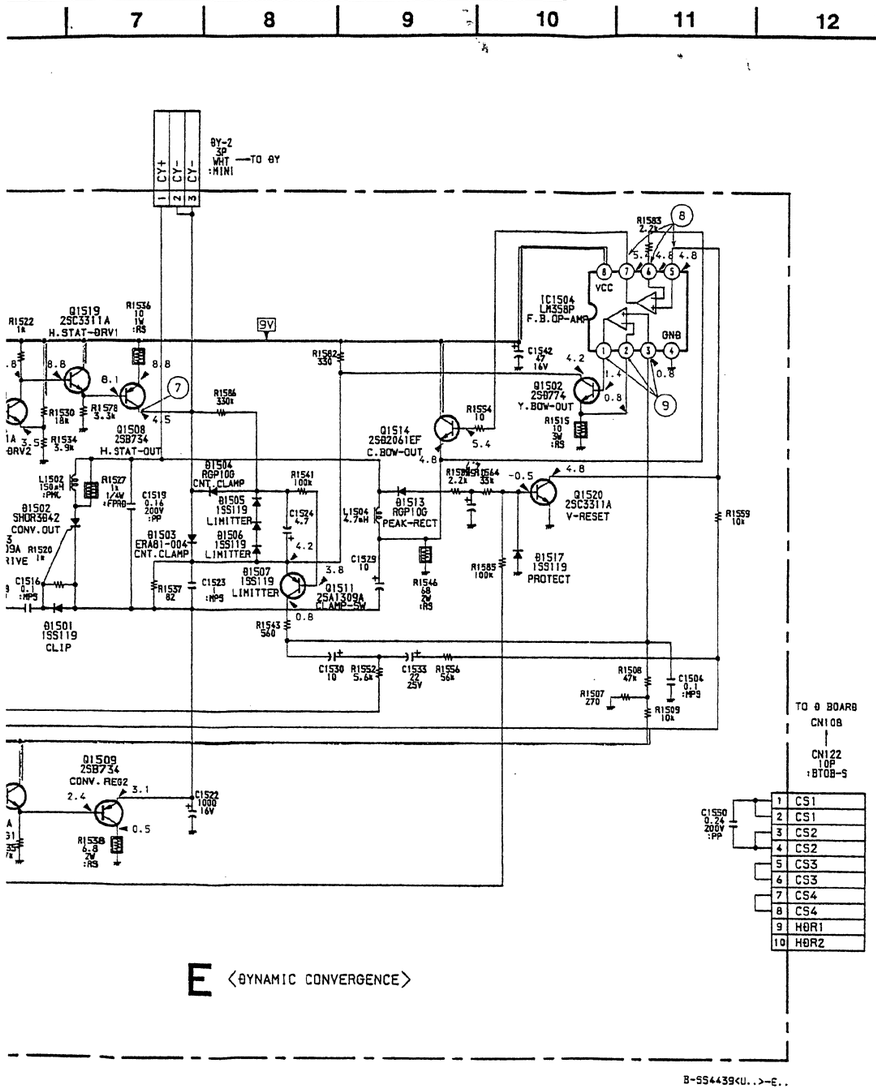
E [DYNAMIC CONVERGENCE]

— E Board —



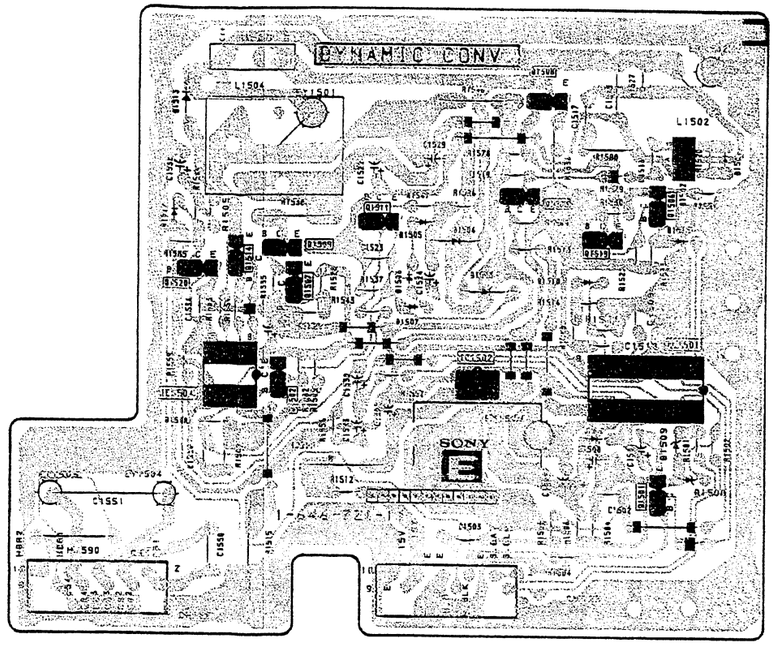
— E Board —





E [DYNAMIC CONVERGENCE]

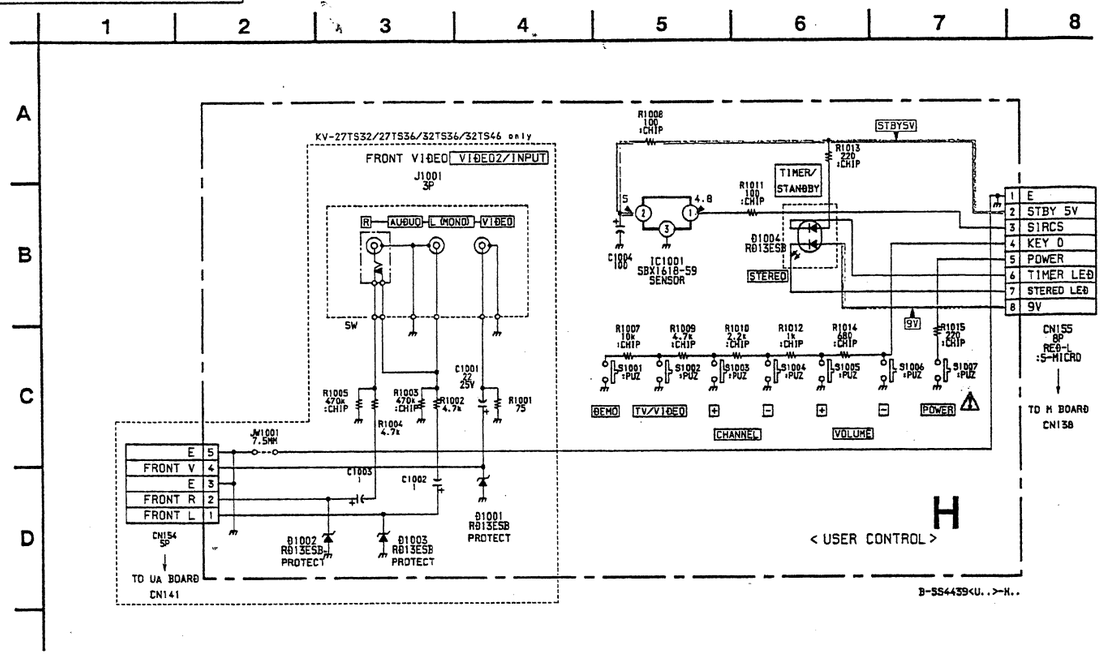
— E Board —



— E Board —

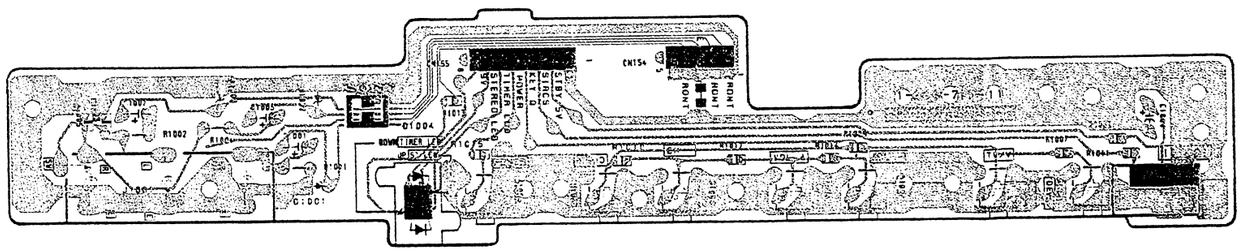
① 1.2 Vp-p (V)	② 2.6 Vp-p (V)	③ 9.2 Vp-p (H)
④ 9.2 Vp-p (V)	⑤ 1.6 Vp-p (H)	⑥ 4.4 Vp-p (H)
⑦ 2.2 Vp-p (V)	⑧ 1 Vp-p (V)	⑨ 2 Vp-p (V)

MC-Service



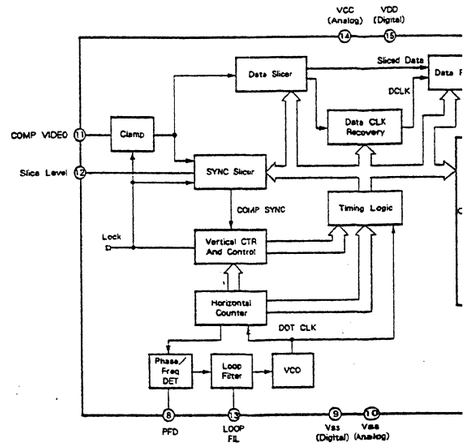
H [USER CONTROL]

— H Board —

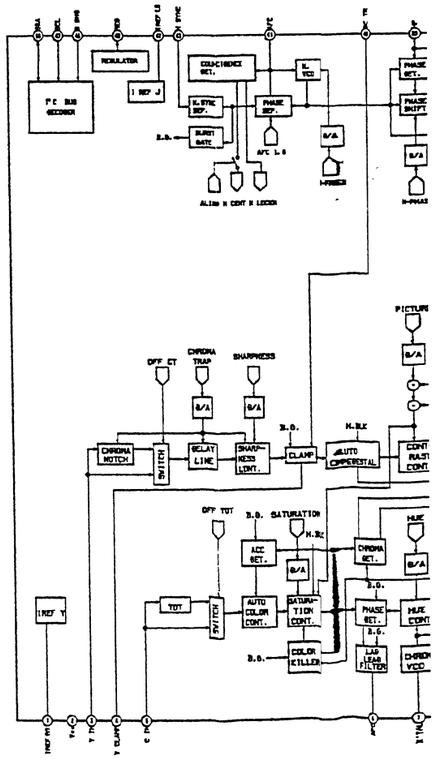


KV-27TS29/27TS32/27TS36
RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46
RM-Y118 RM-Y118
SA-W200

M Board IC150 MC144143



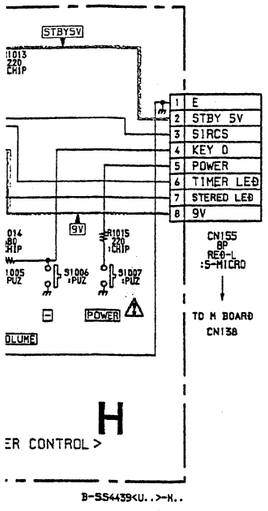
M Board IC301 CXA1465AS



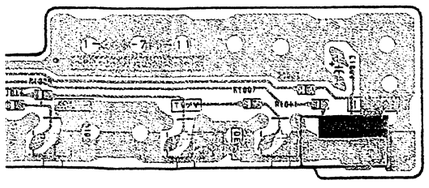
MC-Service

KV-27TS29/27TS32/27TS36
RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46
RM-Y118 RM-Y118 SA-W200

7 8

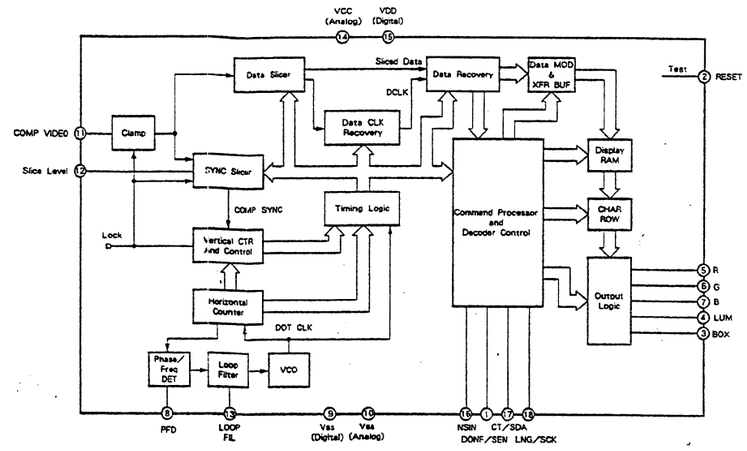


B-554439<U..>-H..

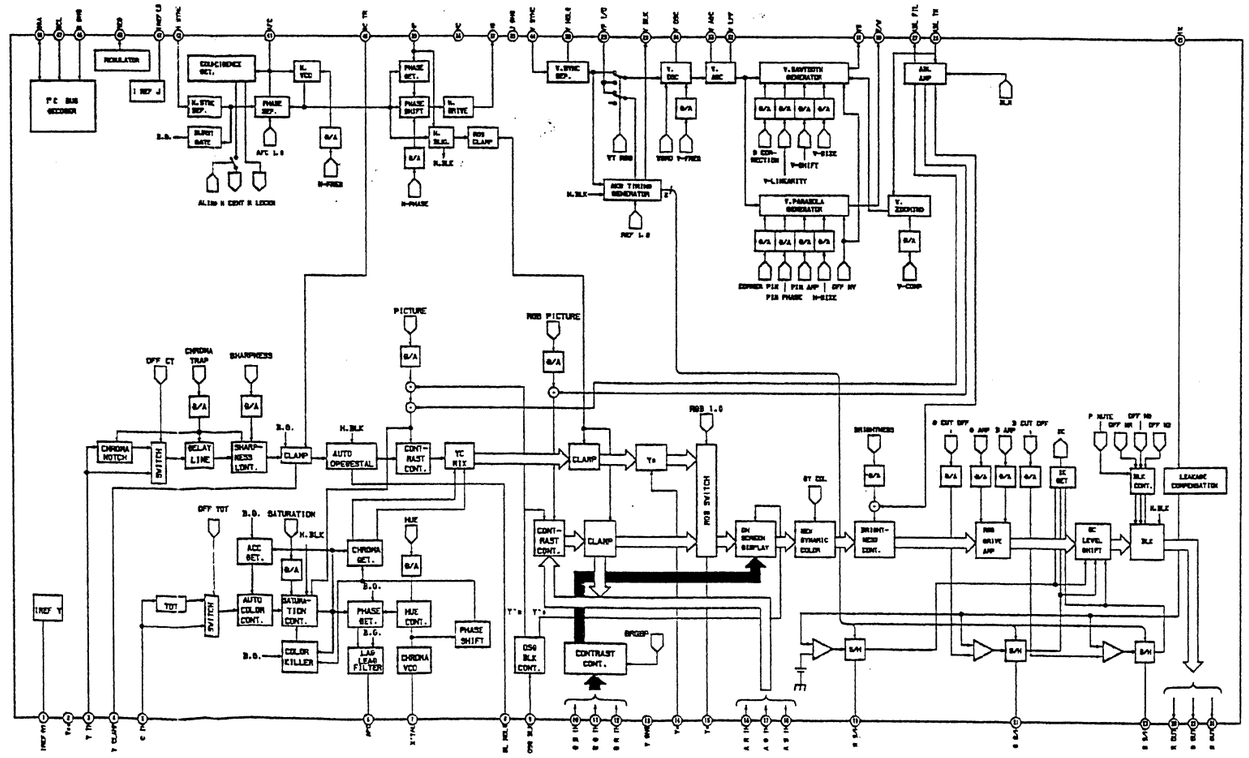


MC-Service

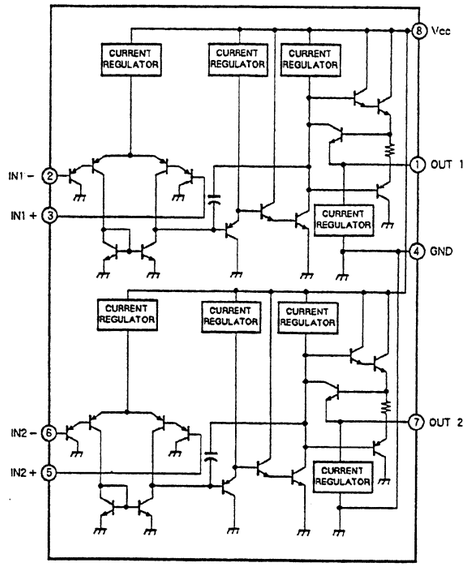
M Board IC150 MC144143



M Board IC301 CXA1465AS



M Board IC202 LM358PS



— M Board —

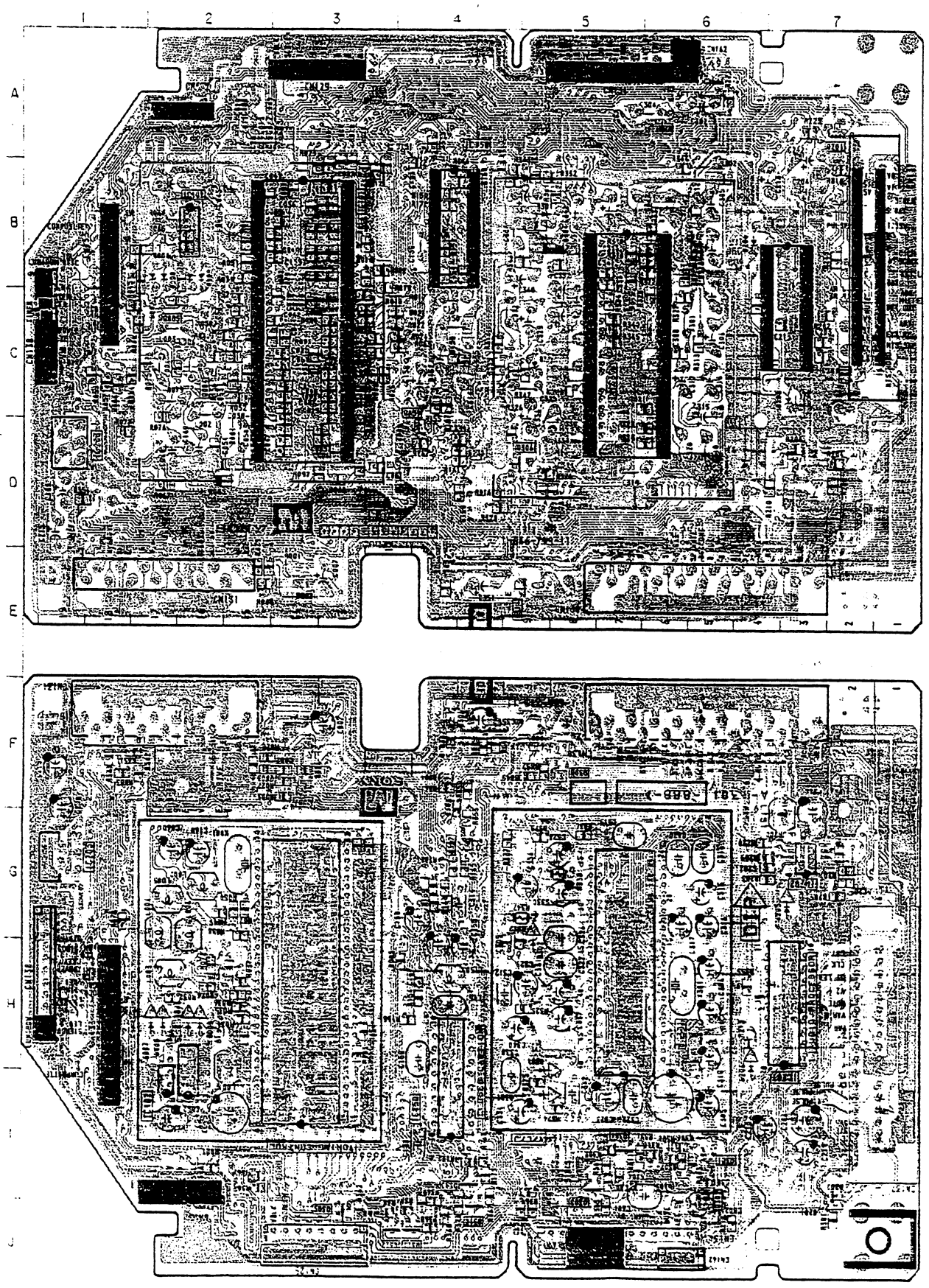
IC		DIODE	
IC101	C – 3	D001	E – 3
IC102	B – 2	D002	E – 3
IC150	B – 4	D004	F – 4
IC201	C – 7	D005	D – 2
IC202	G – 7	D006	B – 2
IC301	C – 5	D007	B – 2
TRANSISTOR		D008	B – 2
Q001	F – 3	D009	B – 2
Q002	D – 4	D150	C – 4
Q004	C – 2	D201	J – 7
Q005	C – 2	D202	I – 7
Q151	D – 4	D205	C – 7
Q201	A – 7	D206	B – 6
Q301	I – 6	D301	B – 5
Q302	I – 6	D304	B – 5
Q307	G – 4	D305	F – 5
Q308	F – 5	D306	F – 4
Q314	E – 4		

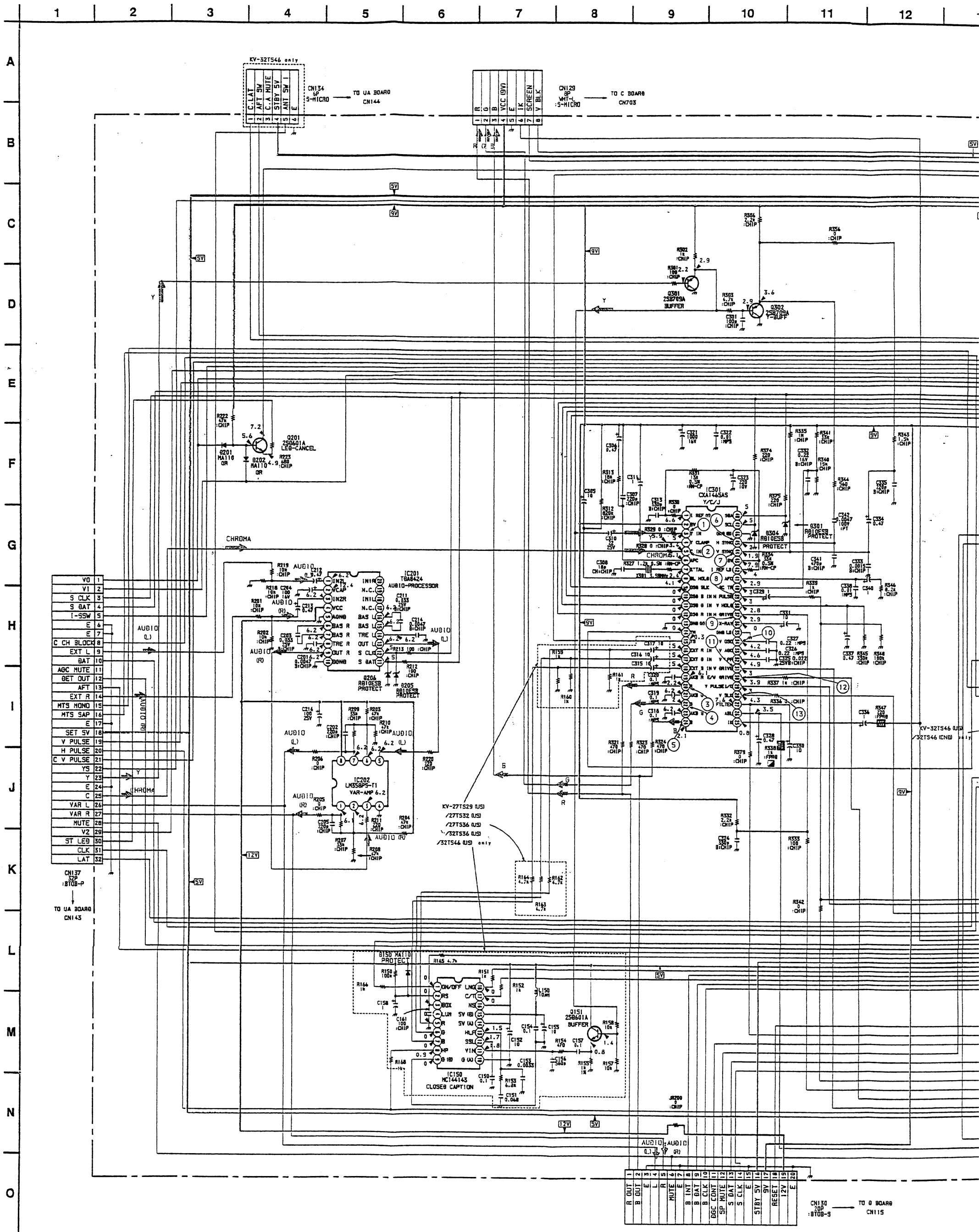
— M Board —

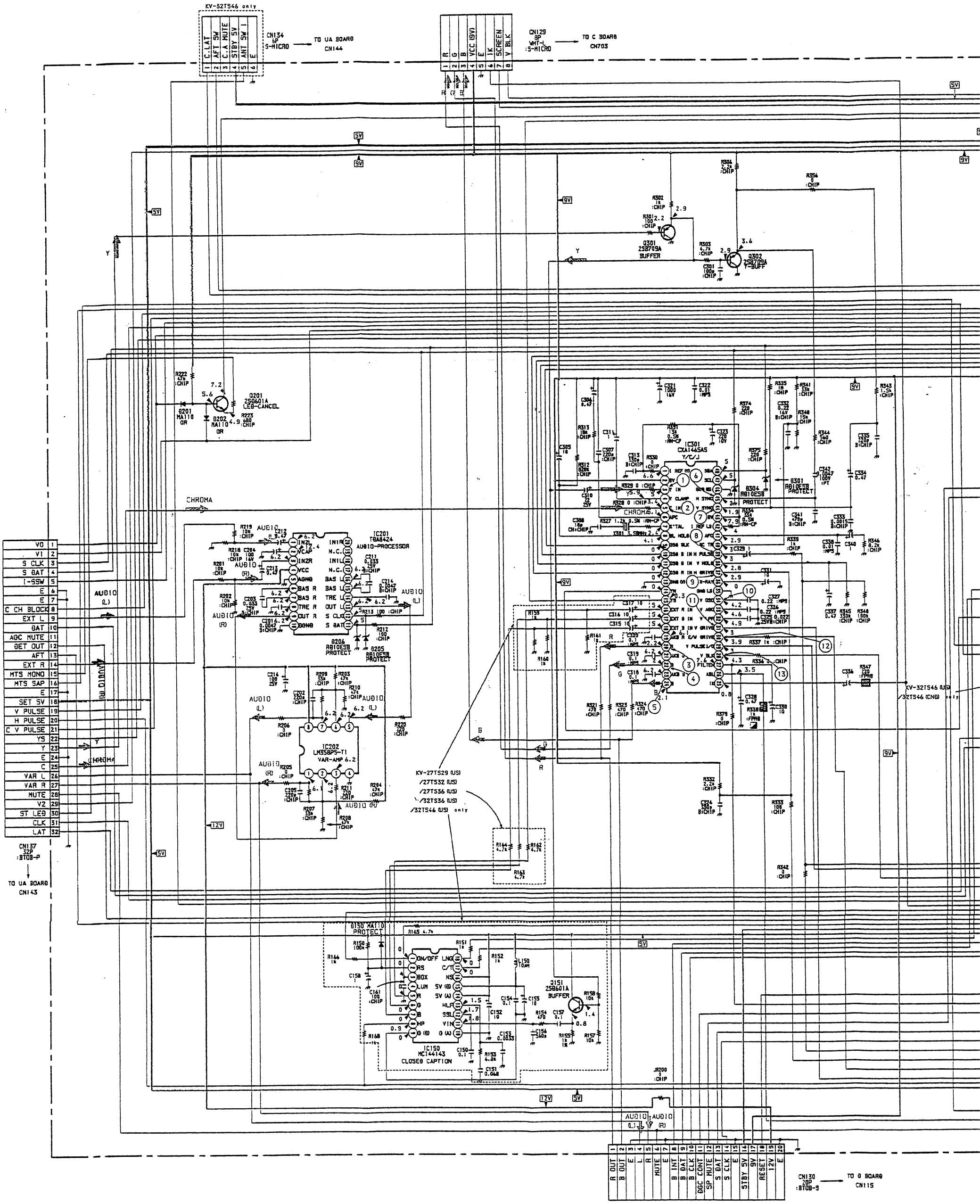
① E021 2.5 Vp-p (H)	② 1.3 Vp-p (H)	③ 5 Vp-p (H)
④ 4.8 Vp-p (H)	⑤ 4.8 Vp-p (H)	⑥ 1.6 Vp-p (H)
⑦ 1.6 Vp-p (H)	⑧ 5.6 Vp-p (H)	⑨ 4.4 Vp-p (H)
⑩ 1.8 Vp-p (V)	⑪ 1.4 Vp-p (V)	⑫ 2.5 Vp-p (V)
⑬ 5 Vp-p (V)	⑭ 5.3p-p(4.17MHz)	

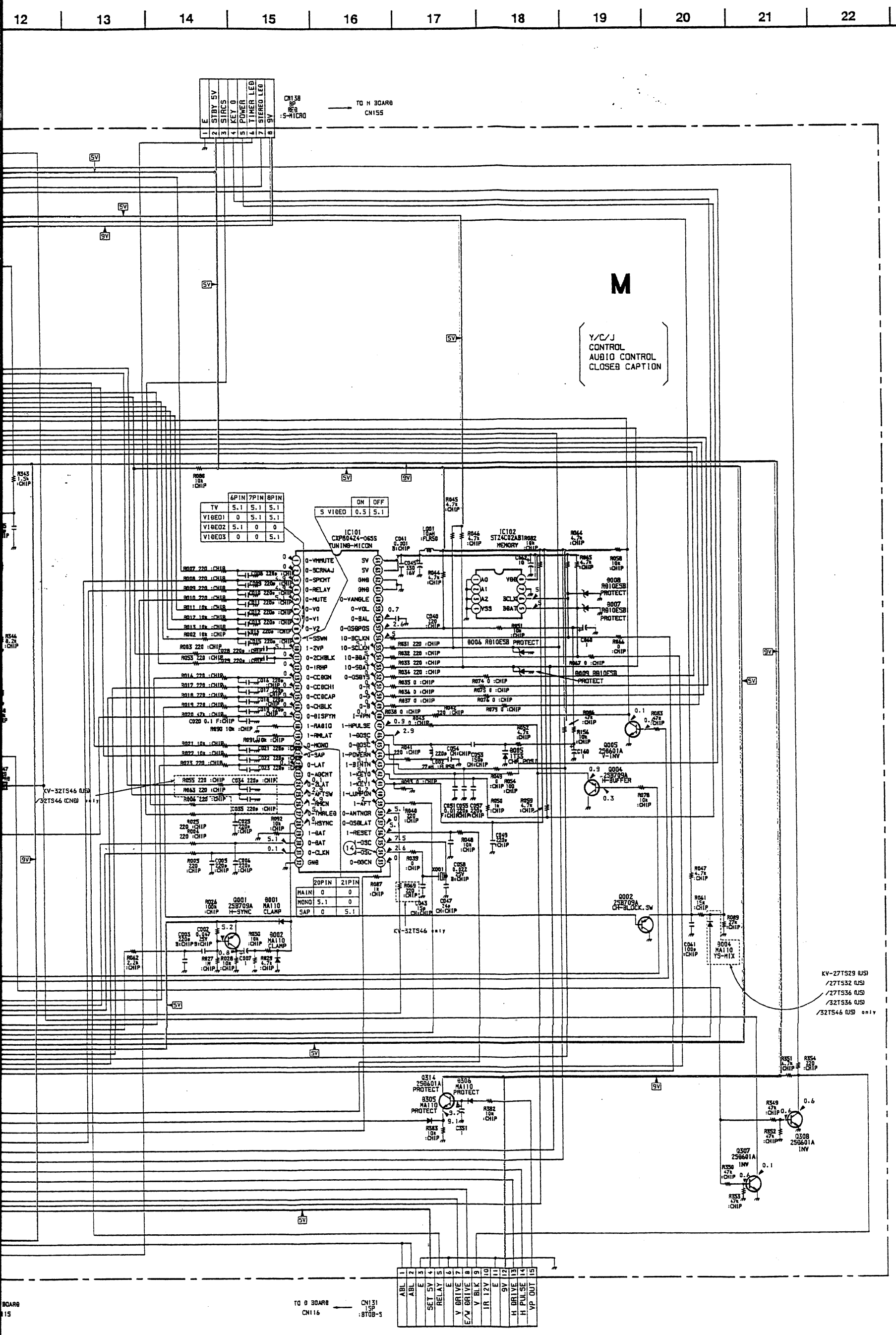
M [Y/C/J, CONTROL, AUDIO CONTROL, CLOSED CAPTION]

— M Board —

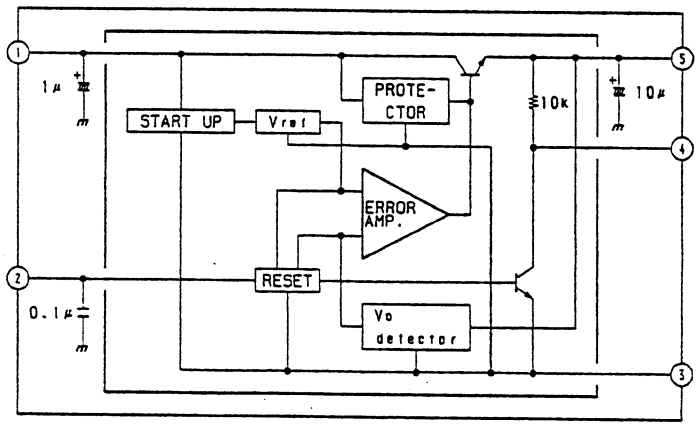



KV-32TS46 only
CN134 6P S-HICRO
C.LAT
AFT SW
C.A MUTE
STBY 5V
ANT SW I
E
TO UA BOARD CN144
CN129 8P WHT-L S-HICRO
R
G
B
VCC (9V)
E
IK
SCREEN
V BLK
TO C BOARD CN703
5V
9V
Y
CHROMA
AUDIO (L)
AUDIO (R)
R302 1k :CHIP
R301 2.2 100 :CHIP
Q301 2SB709A BUFFER
R306 2.2k :CHIP
R356 0 :CHIP
R303 4.7k :CHIP
C301 100p :CHIP
Q302 2SB709A Y-BUFF
R222 47k :CHIP
Q201 2SD601A LEG-CANCEL
D201 MA110 OR
D202 MA110 OR
R223 680 :CHIP
IC201 TDA8424 AUDIO-PROCESSOR
IC202 LM358PS-T1 VAR-AMP 6.2
IC301 CXA1445AS Y/C/J
D306 RB10ES8 PROTECT
D304 RB10ES8 PROTECT
D305 RB10ES8 PROTECT
D206 RB10ES8 PROTECT
D150 MA110 PROTECT
Q151 2SB601A BUFFER
IC150 MC144143 CLOSED CAPTION
VO 1
V1 2
S CLK 3
S DAT 4
I-SSW 5
E 6
E 7
C CH BLOCK 8
EXT L 9
DAT 10
AGC MUTE 11
DET OUT 12
AFT 13
EXT R 14
MTS MONO 15
MTS SAP 16
E 17
SET 5V 18
V PULSE 19
H PULSE 20
C V PULSE 21
YS 22
Y 23
E 24
C 25
VAR L 26
VAR R 27
MUTE 28
V2 29
ST LED 30
CLK 31
LAT 32
CN137 32P :BTOB-P
TO UA BOARD CN143
KV-27TS29 (US)
/27TS32 (US)
/27TS36 (US)
/32TS36 (US)
/32TS46 (US) only
KV-32TS46 (US) /32TS46 (CND) only
R OUT 1
B OUT 2
E 3
L 4
R 5
MUTE 6
E 7
B INT 8
B DAT 9
B CLK 10
DGC CONT 11
SP MUTE 12
S DAT 13
S CLK 14
E 15
STBY 5V 16
5V 17
RESET 18
12V 19
E 20
CN130 20P :BTOB-S
TO B BOARD CN115


KV-32TS46 only
CN134 6P S-MICRO → TO UA BOARD CN144
C.LAT
AFT SW
C.A MUTE
STBY 5V
ANT SW I
E
CN129 8P WHT-L :S-MICRO → TO C BOARD CN703
R
G
B
VCC (9V)
E
IK
SCREEN
V BLK
5V
9V
Q301 2SB709A BUFFER
Q302 2SB709A Y-BUFF
IC201 TBA8424 AUDIO-PROCESSOR
IC202 LM358PS-T1 VAR-AMP 6.2
IC301 CXA1445AS Y/C/J
IC150 MC144143 CLOSED CAPTION
Q201 2SD601A LEB-CANCEL
Q151 2SB601A BUFFER
D206 RB10ES8 PROTECT
D205 RB10ES8 PROTECT
D301 RB10ES8 PROTECT
D304 RB10ES8 PROTECT
D150 MA110 PROTECT
CHROMA
AUDIO (L)
AUDIO (R)
VO
V1
S CLK
S DAT
I-SSW
E
E
C CH BLOCK
EXT L
DAT
AGC MUTE
DET OUT
AFT
EXT R
MTS MONO
MTS SAP
E
SET 5V
V PULSE
H PULSE
C V PULSE
YS
Y
E
C
VAR L
VAR R
MUTE
V2
ST LED
CLK
LAT
CN137 32P :BTOB-P → TO UA BOARD CN143
KV-27TS29 (US) /27TS32 (US) /27TS36 (US) /32TS36 (US) /32TS46 (US) only
KV-32TS46 (US) /32TS46 (CND) only
R OUT
B OUT
E
L
R
MUTE
E
B INT
B DAT
B CLK
OSC CONT
SP MUTE
S DAT
S CLK
E
STBY 5V
5V
RESET
12V
E
CN130 20P :BTOB-9 → TO B BOARD CN115

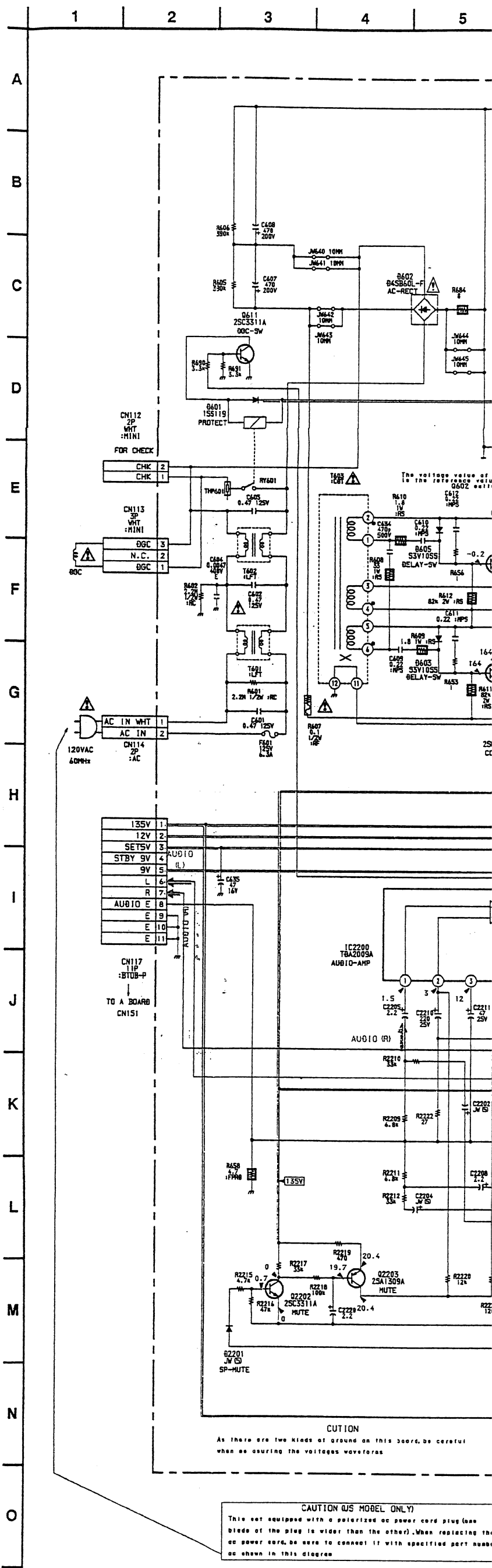

12
13
14
15
16
17
18
19
20
21
22
M
Y/C/J
CONTROL
AUDIO CONTROL
CLOSED CAPTION
IC101
CXP80424-065S
TUNING-MICON
IC102
ST24C02AB1
MEMORY
CN138
8P
REB
:MICRO
TO H BOARD
CN155
E
STBY 5V
SIRCS
KEY 0
POWER
TIMER LED
STEREO LED
9V
5V
6PIN 7PIN 8PIN
TV 5.1 5.1 5.1
VIDEO1 0 5.1 5.1
VIDEO2 5.1 0 0
VIDEO3 0 0 5.1
ON OFF
S VIDEO 0.5 5.1
20PIN 21PIN
MAIN 0 0
MONO 5.1 0
SAP 0 5.1
KV-32TS46 (US)
/32TS46 (CND) only
KV-32TS46 only
KV-27TS29 (US)
/27TS32 (US)
/27TS36 (US)
/32TS36 (US)
/32TS46 (US) only
TO D BOARD
CN116
CN131
15P
:BTOB-S
ABL
E
SET 5V
RELAY
V DRIVE
E/W DRIVE
V BLK
IR 12V
9V
H DRIVE
H PULSE
VP OUT

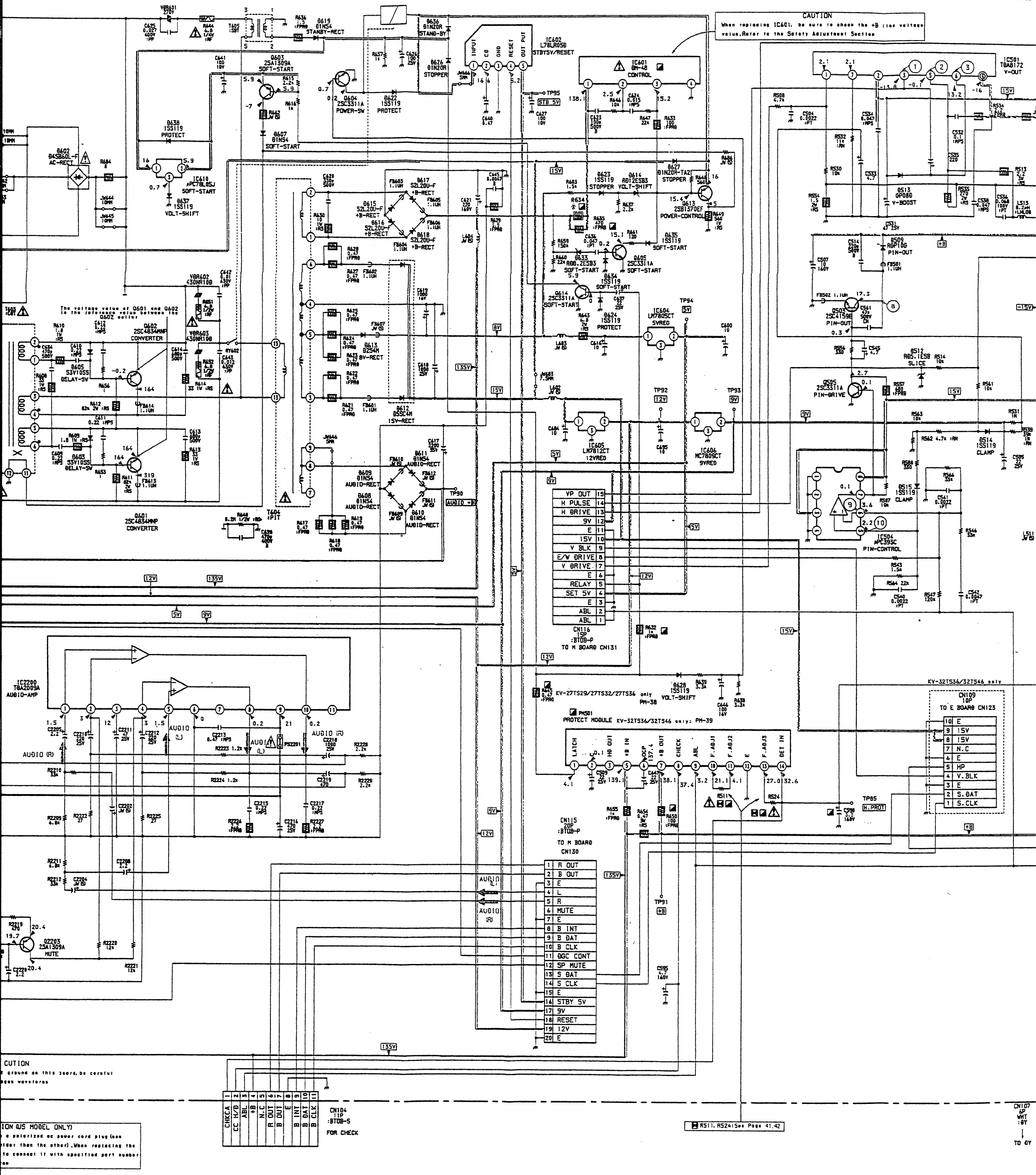
D Board IC602 L78LR05D



— D Board —

① 30 Vp-p (V)	② 60 Vp-p (V)	③ 32 Vp-p (V)
④ 3.5 Vp-p (H)	⑤ 185 Vp-p (H)	⑥ 19 Vp-p (H)
⑦ 1000Vp-p (H)	⑧ 140 Vp-p (H)	⑨ 2.4 Vp-p (V)
⑩ 3.6 Vp-p (H)	⑪ 230 Vp-p (H)	⑫ 2.8 Vp-p (V)




CAUTION
When replacing IC601, be sure to check the +B line voltage value.Refer to the Safety Adjustment Section
IC602 L78LR05B STBY5V/RESET
IC601 BH-48 CONTROL
IC610 APC78L05J SOFT-START
IC1501 TBA8172 V-OUT
IC604 LM7805CT 5VREG
IC605 LM7812CT 12VREG
IC606 MC7809CT 9VREG
IC504 APC393C PIN-CONTROL
IC2200 TBA2009A AUDIO-AMP
Q601 2SC4834MNP CONVERTER
Q602 2SC4834MNP CONVERTER
Q603 2SA1309A SOFT-START
Q604 2SC3311A POWER-SW
Q605 2SC3311A SOFT-START
Q613 2SB1370EF POWER-CONTROL
Q503 2SC4159B PIN-OUT
Q505 2SC3311A PIN-DRIVE
Q2203 2SA1309A MUTE
D602 B4SB60L-F AC-RECT
D603 S3V10S5 DELAY-5V
D604 S3V10S5 DELAY-5V
D605 S3V10S5 DELAY-5V
D607 B1N54 SOFT-START
D609 B1NS4 AUDIO-RECT
D610 B1NS4 AUDIO-RECT
D611 B1NS4 AUDIO-RECT
D612 B5SC4M 15V-RECT
D613 B254M 8V-RECT
D615 S2L20U-F +B-RECT
D616 S2L20U-F +B-RECT
D617 S2L20U-F +B-RECT
D618 S2L20U-F +B-RECT
D619 B1N54 STANBY-RECT
D622 1SS119 PROTECT
D623 1SS119 STOPPER
D624 1SS119 PROTECT
D625 1SS119 SOFT-START
D626 1SS119 VOLT-SHIFT
D627 B1NZOR-TAZ STOPPER
D628 1SS119 VOLT-SHIFT
D634 B1NZOR STAND-BY
D635 1SS119 SOFT-START
D636 B1NZOR STOPPER
D637 1SS119 VOLT-SHIFT
D638 1SS119 PROTECT
D2201 B1NS4 AUDIO-RECT
D2202 B1NS4 AUDIO-RECT
D2203 B1NS4 AUDIO-RECT
D2204 B1NS4 AUDIO-RECT
D501 RGP10G PIN-OUT
D502 RGP10G PIN-OUT
D503 RGP10G PIN-OUT
D504 RGP10G PIN-OUT
D505 RGP10G PIN-OUT
D506 RGP10G PIN-OUT
D507 RGP10G PIN-OUT
D508 RGP10G PIN-OUT
D509 RGP10G PIN-OUT
D510 RGP10G PIN-OUT
D511 RGP10G PIN-OUT
D512 RD5.1ESB SLICE
D513 GP08Q V-BOOST
D514 1SS119 CLAMP
D515 1SS119 CLAMP
VBR601 270V
VBR602 430NR10B
VBR603 430NR10B
T605 :SBT
T604 :PIT
T603 :CRT
F3607
F3608
F3609
F3610
F3611
F3612
F3613
F3614
F3615
F3616
F3617
F3618
F3619
F3620
F3621
F3622
F3623
F3624
F3625
F3626
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F3629
F3630
F3631
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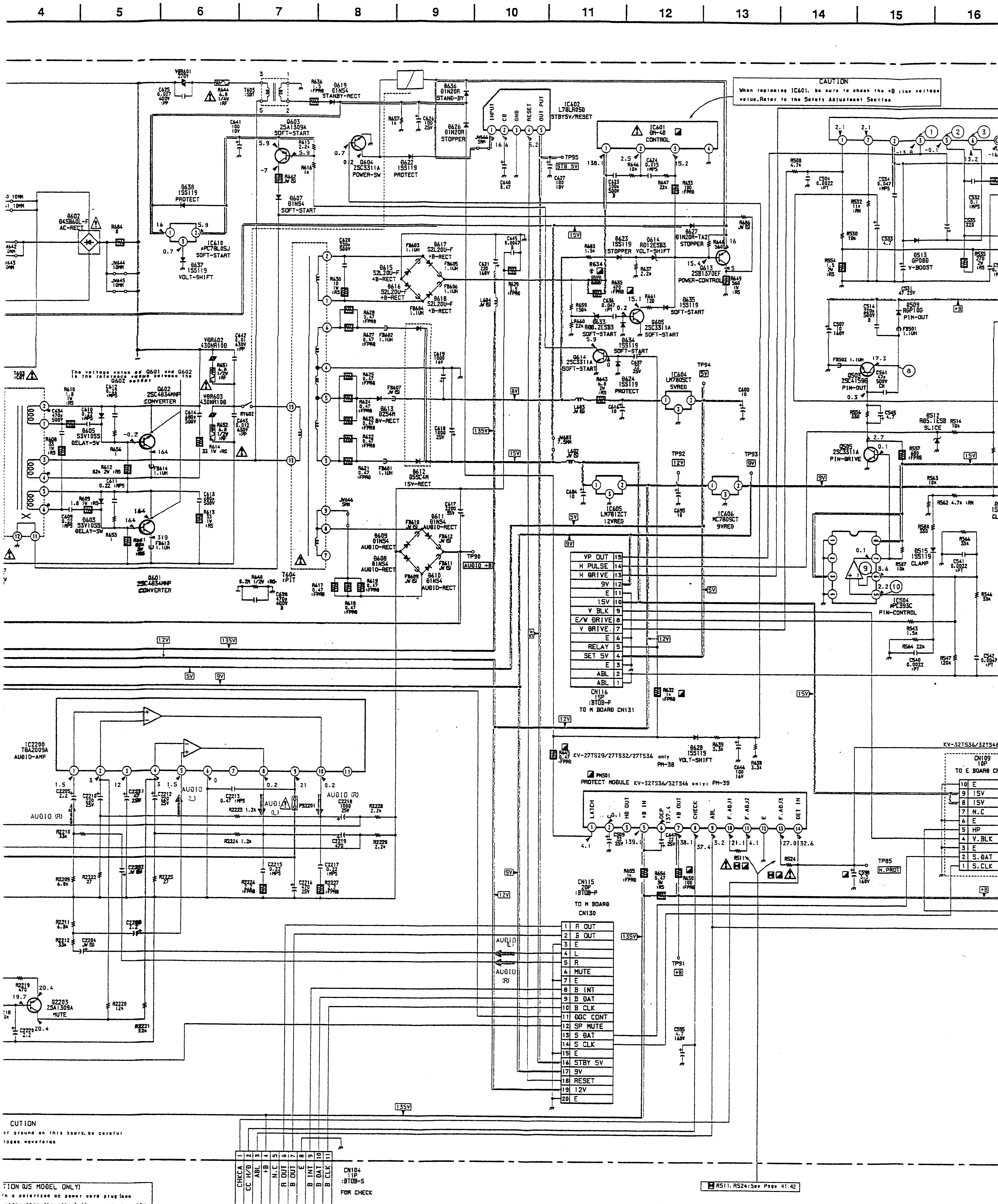
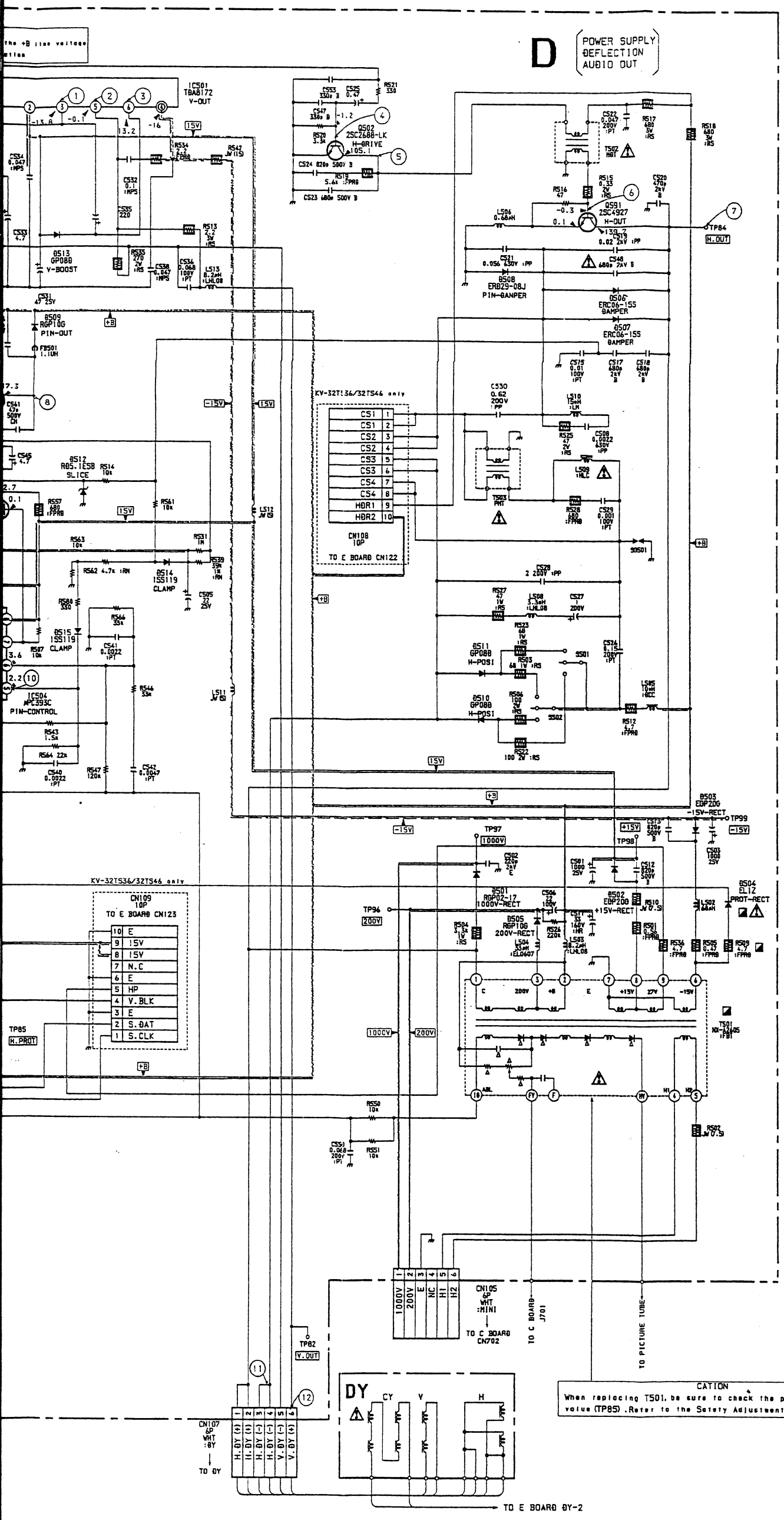
F3640
F3641
F3642
F3643
F3644
F3645
F3646


4 5 6 7 8 9 10 11 12 13 14 15 16
CAUTION
When replacing IC601, be sure to check the +B line voltage value.Refer to the Safety Adjustment Section
IC601 BM-48 CONTROL
IC602 L78LR05D STBY5V/RESET
INPUT CD GND RESET OUT PUT
TP95 STB 5V
Q603 2SA1309A SOFT-START
Q604 2SC3311A POWER-SW
D622 1SS119 PROTECT
D619 D1N54 STANBY-RECT
D636 D1N20R STAND-BY
D626 D1N20R STOPPER
T605 :SBT
VDR601 270V
D638 1SS119 PROTECT
D607 D1N54 SOFT-START
D602 D4SB60L-F AC-RECT
IC610 μPC78L05J SOFT-START
D637 1SS119 VOLT-SHIFT
D615 S2L20U-F +B-RECT
D616 S2L20U-F +B-RECT
D617 S2L20U-F +B-RECT
D618 S2L20U-F +B-RECT
D623 1SS119 STOPPER
D614 RD12ESB3 VOLT-SHIFT
D627 D1N20R-TA2 STOPPER
Q613 2SB1370EF POWER-CONTROL
Q605 2SC3311A SOFT-START
D633 RD8.2ESB3 SOFT-START
D635 1SS119 SOFT-START
D634 1SS119 SOFT-START
Q614 2SC3311A SOFT-START
D624 1SS119 PROTECT
IC604 LM7805CT 5VREG
TP94 5V
VDR602 430NR10D
VDR603 430NR10D
RY602
T603 :CBT
The voltage value of Q601 and Q602 is the reference value between the Q602 emitter
Q602 2SC4834MNP CONVERTER
D605 S3V10SS DELAY-SW
D603 S3V10SS DELAY-SW
Q601 2SC4834MNP CONVERTER
T604 :PIT
D613 D2S4M 8V-RECT
D612 D5SC4M 15V-RECT
D609 D1N54 AUDIO-RECT
D608 D1N54 AUDIO-RECT
D611 D1N54 AUDIO-RECT
D610 D1N54 AUDIO-RECT
TP90 AUDIO +B
IC605 LM7812CT 12VREG
IC606 MC7809CT 9VREG
TP92 12V
TP93 9V
Q503 2SC4159E PIN-OUT
D509 RGP10G PIN-OUT
D513 GP08D V-BOOST
Q505 2SC3311A PIN-DRIVE
D512 RD5.1ESB SLICE
D515 1SS119 CLAMP
IC504 μPC393C PIN-CONTROL
CN116 15P :BTOB-P TO M BOARD CN131
1 ABL
2 ABL
3 E
4 SET 5V
5 RELAY
6 E
7 V DRIVE
8 E/W DRIVE
9 V BLK
10 15V
11 E
12 9V
13 H DRIVE
14 H PULSE
15 VP OUT
D628 1SS119 VOLT-SHIFT
KV-27TS29/27TS32/27TS36 only PM-38
PM501 PROTECT MODULE KV-32TS36/32TS46 only: PM-39
LATCH C HD OUT +B IN OCP +B OUT CHECK ABL F.ADJ1 F.ADJ2 E F.ADJ3 DET IN
TP85 H.PROT
KV-32TS36/32TS46
CN109 10P TO E BOARD
1 S.CLK
2 S.DAT
3 E
4 V.BLK
5 HP
6 E
7 N.C
8 15V
9 15V
10 E
IC2200 TBA2009A AUDIO-AMP
AUDIO (L)
AUDIO (R)
PS2201
Q2203 2SA1309A MUTE
CN115 20P :BTOB-P TO M BOARD CN130
1 R OUT
2 G OUT
3 E
4 L
5 R
6 MUTE
7 E
8 B INT
9 B DAT
10 B CLK
11 DGC CONT
12 SP MUTE
13 S DAT
14 S CLK
15 E
16 STBY 5V
17 9V
18 RESET
19 12V
20 E
TP91 +B
CN104 11P :BTOB-S FOR CHECK
1 CHKCA
2 CC H/D
3 ABL
4 +B
5 N.C
6 R OUT
7 B OUT
8 E
9 B INT
10 B DAT
11 B CLK
CUTION
of ground on this board, be careful
tages waveforms
TION (US MODEL ONLY)
h a polarized ac power cord plug (one
wider than the other). When replacing the
to connect it with specified part number
ree
RS11, RS24: See Page 41, 42

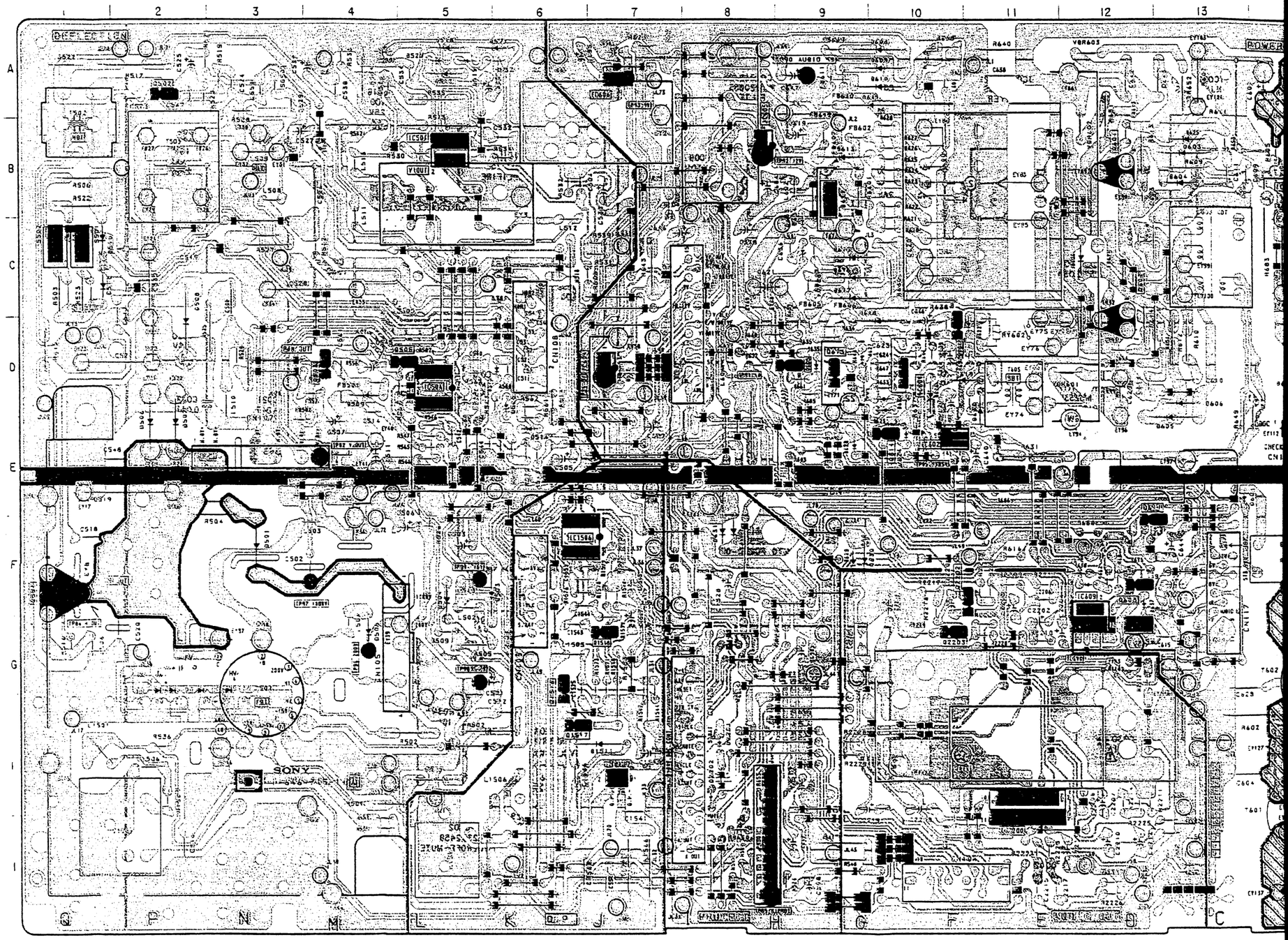
MC-Service

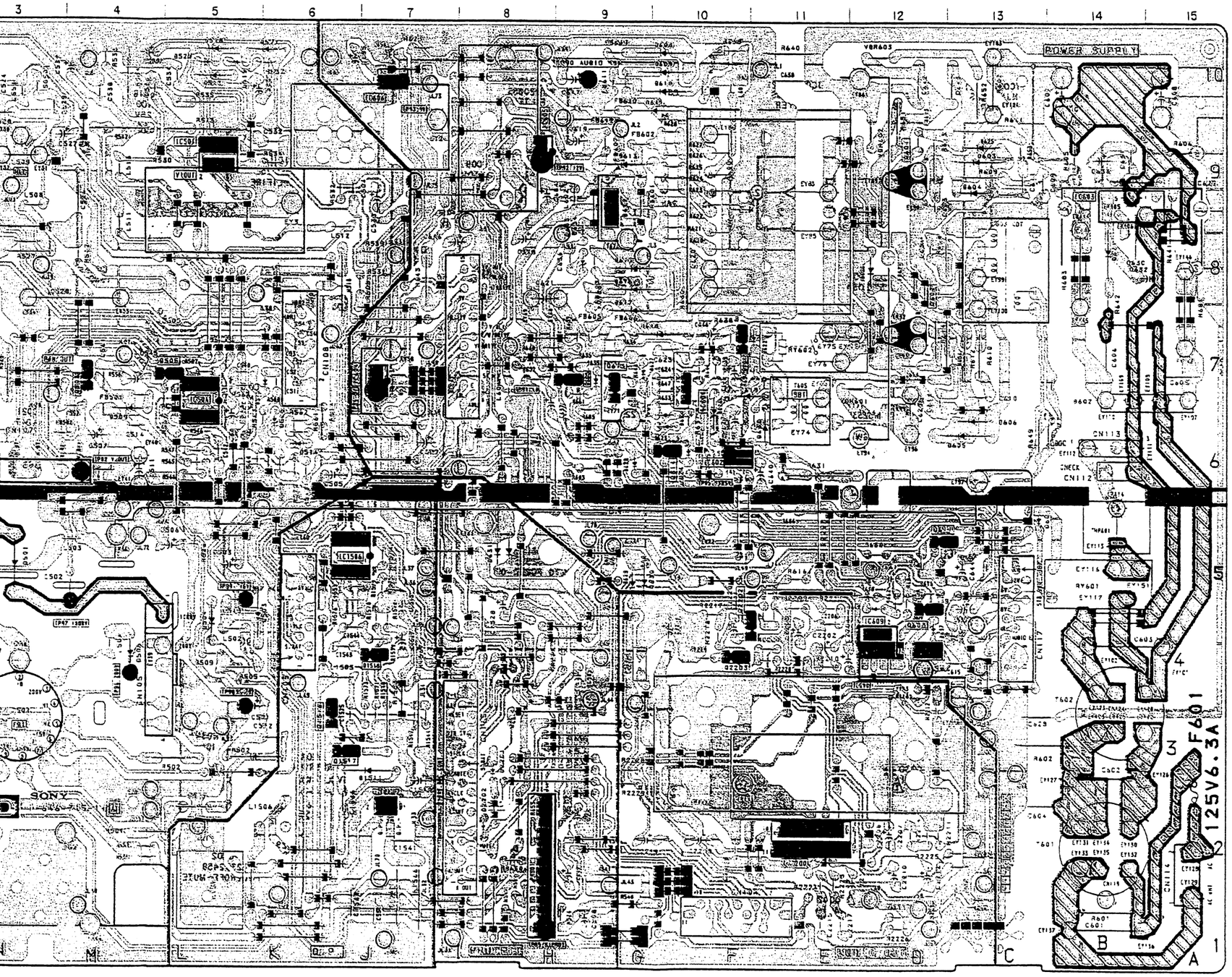
D POWER SUPPLY DEFLECTION AUDIO OUT



D [POWER SUPPLY, DEFLECTION, AUDIO OUT]

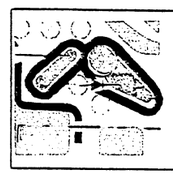
— D Board —



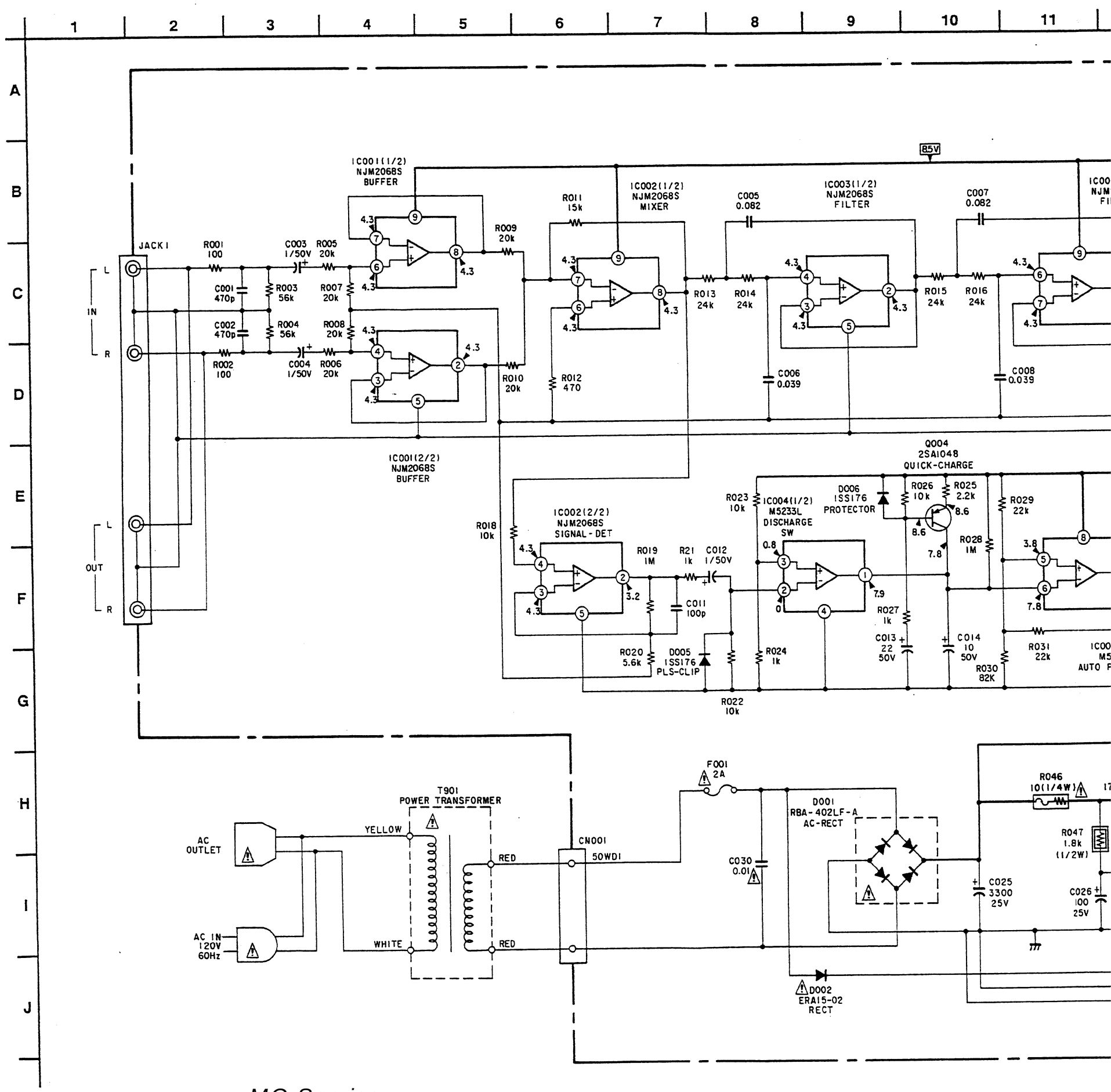


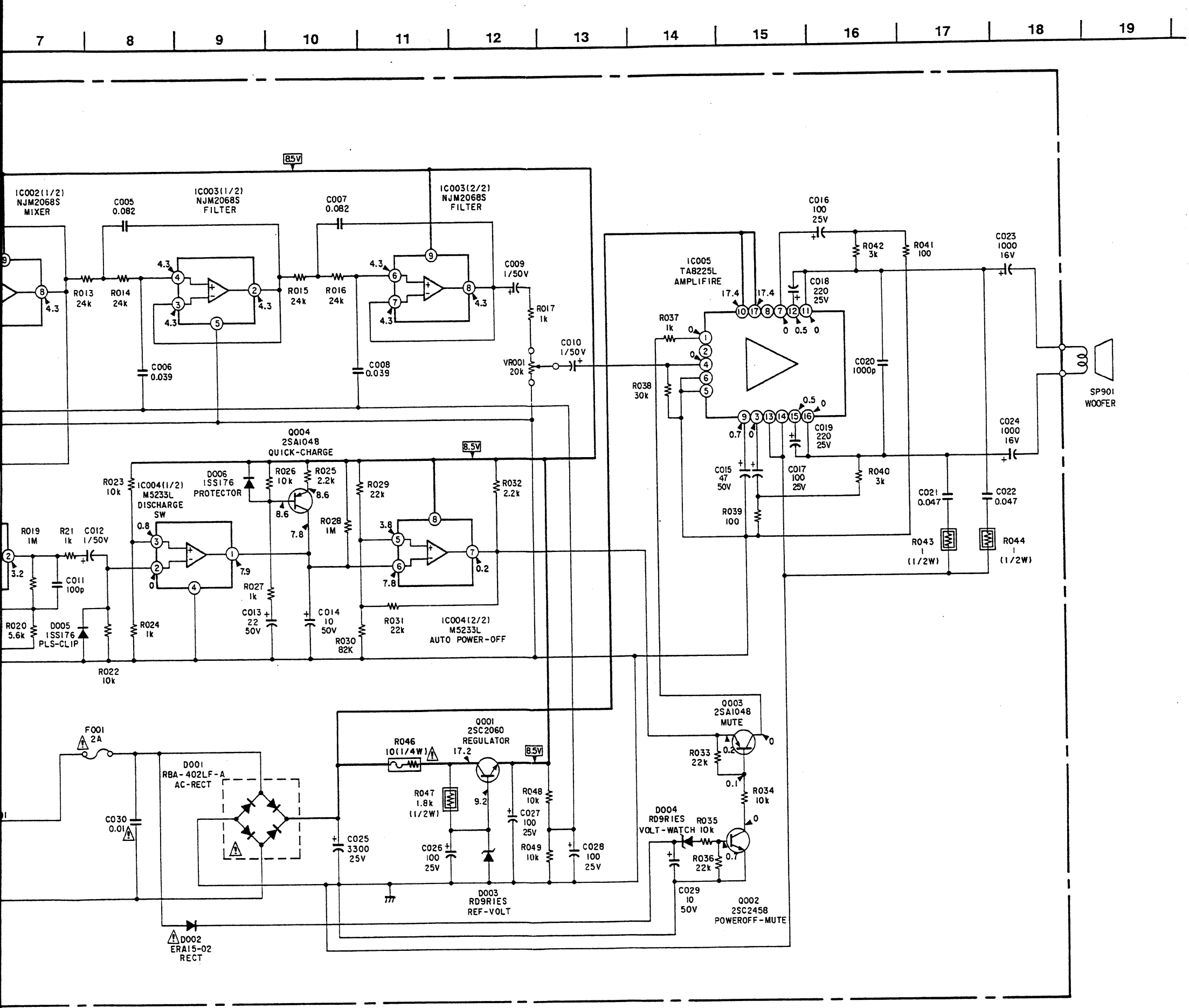
— D Board —

IC		D603	B – 13
		D605	E – 13
IC501	B – 5	D607	F – 12
IC504	D – 5	D608	A – 10
IC601	D – 10	D609	A – 10
IC602	E – 10	D610	A – 10
IC604	D – 7	D611	A – 10
IC605	B – 8	D612	B – 9
IC606	A – 7	D613	B – 9
IC610	G – 12	D614	D – 10
IC2200	I – 11	D615	C – 9
		D616	C – 9
TRANSISTOR		D617	C – 9
		D618	D – 10
Q502	A – 2	D619	D – 10
Q503	D – 4	D622	D – 11
Q505	D – 5	D623	D – 10
Q591	F – 1	D624	E – 10
Q601	B – 12	D626	D – 10
Q602	C – 12	D627	D – 9
Q603	F – 12	D628	E – 9
Q604	D – 10	D629	F – 9
Q605	D – 9	D630	F – 9
Q611	F – 12	D631	F – 8
Q613	D – 9	D632	F – 8
Q614	E – 10	D633	C – 9
Q2202	F – 10	D634	C – 9
Q2203	G – 10	D635	D – 9
		D636	D – 11
DIODE		D637	F – 12
		D638	F – 12
D501	F – 3	D2201	H – 8
D502	H – 5		
D503	F – 5	TEST POINT	
D504	F – 5		
D505	G – 4	TP82	E – 4
D506	E – 2	TP84	F – 1
D507	E – 2	TP85	I – 8
D508	C – 2	TP90	A – 9
D509	D – 4	TP91	D – 8
D510	C – 1	TP92	B – 8
D511	C – 1	TP93	A – 7
D512	D – 7	TP94	D – 7
D513	A – 5	TP95	E – 10
D514	E – 6	TP96	G – 4
D515	D – 6	TP97	F – 3
D601	E – 13	TP98	G – 5
D602	D – 14	TP99	F – 5



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

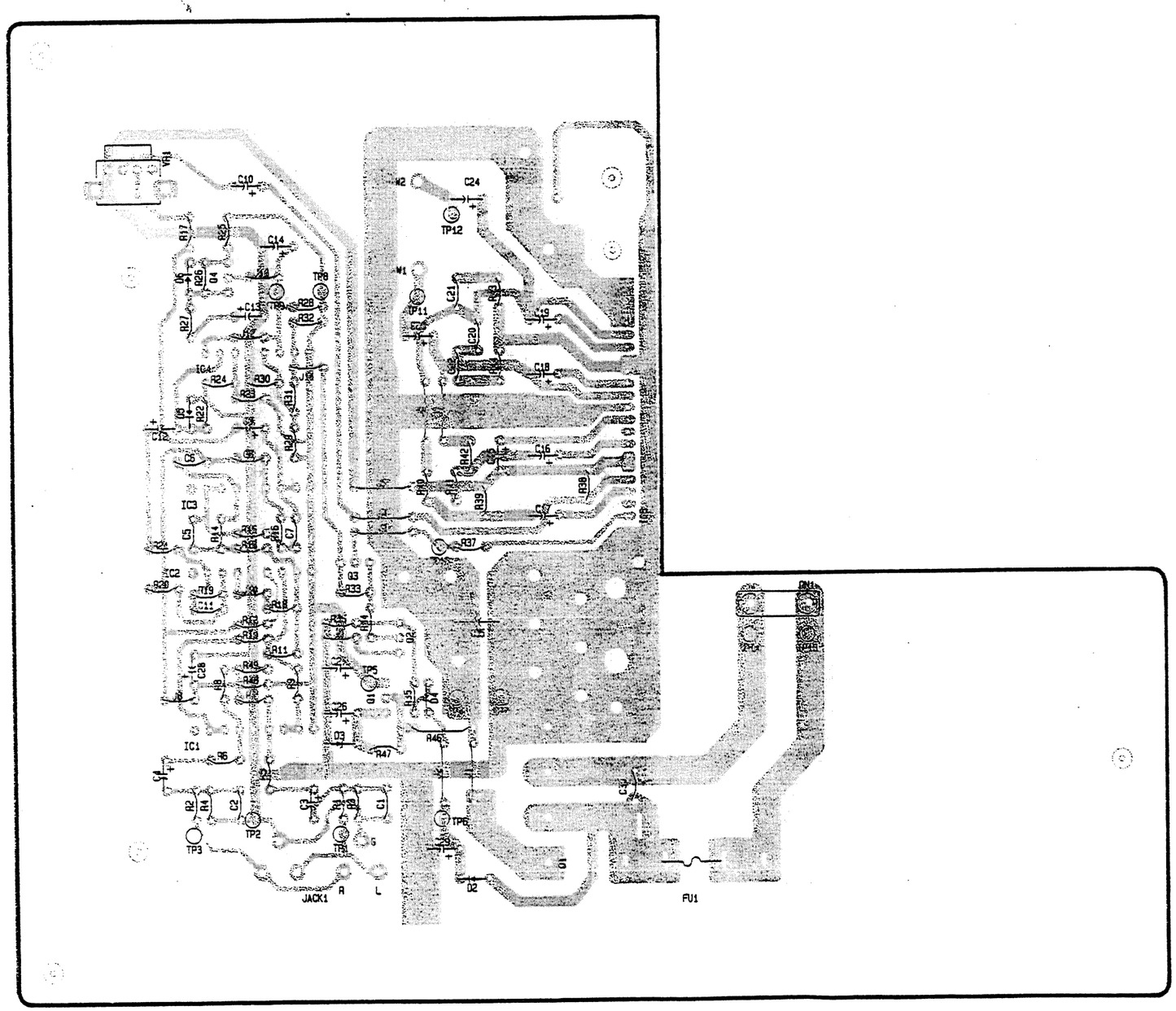

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
JACK1
L
IN
R
L
OUT
R
R001 100
R002 100
C001 470p
C002 470p
R003 56k
R004 56k
C003 1/50V
C004 1/50V
R005 20k
R006 20k
R007 20k
R008 20k
IC001(1/2) NJM2068S BUFFER
IC001(2/2) NJM2068S BUFFER
R009 20k
R010 20k
85V
R011 15k
R012 470
IC002(1/2) NJM2068S MIXER
R013 24k
R014 24k
C005 0.082
C006 0.039
IC003(1/2) NJM2068S FILTER
R015 24k
R016 24k
C007 0.082
C008 0.039
IC00 NJM FI
R018 10k
IC002(2/2) NJM2068S SIGNAL-DET
R019 1M
R21 1k
C012 1/50V
C011 100p
R020 5.6k
D005 1SS176 PLS-CLIP
R022 10k
Q004 2SA1048 QUICK-CHARGE
R023 10k
IC004(1/2) M5233L DISCHARGE SW
D006 1SS176 PROTECTOR
R026 10k
R025 2.2k
R028 1M
R024 1k
R027 1k
C013 22 50V
C014 10 50V
R029 22k
R030 82K
R031 22k
IC00 M5 AUTO F
T901 POWER TRANSFORMER
AC OUTLET
AC IN 120V 60Hz
YELLOW
WHITE
RED
RED
CN001
50WD1
F001 2A
C030 0.01
D001 RBA-402LF-A AC-RECT
D002 ERA15-02 RECT
R046 10(1/4W)
R047 1.8k (1/2W)
C025 3300 25V
C026 100 25V


7
8
9
10
11
12
13
14
15
16
17
18
19
8.5V
IC002(1/2)
NJM2068S
MIXER
C005
0.082
IC003(1/2)
NJM2068S
FILTER
C007
0.082
IC003(2/2)
NJM2068S
FILTER
C009
1/50V
R017
1k
C010
1/50V
VR001
20k
R013
24k
R014
24k
R015
24k
R016
24k
C006
0.039
C008
0.039
IC005
TA8225L
AMPLIFIRE
C016
100
25V
R042
3k
R041
100
C023
1000
16V
C018
220
25V
R037
1k
R038
30k
C020
1000p
SP901
WOOFER
C019
220
25V
C024
1000
16V
C015
47
50V
C017
100
25V
R040
3k
R039
100
C021
0.047
C022
0.047
R043
1
(1/2W)
R044
1
(1/2W)
Q004
2SA1048
QUICK-CHARGE
R023
10k
IC004(1/2)
M5233L
DISCHARGE
SW
D006
1SS176
PROTECTOR
R026
10k
R025
2.2k
R029
22k
R032
2.2k
R028
1M
R019
1M
R21
1k
C012
1/50V
C011
100p
R020
5.6k
D005
1SS176
PLS-CLIP
R024
1k
R027
1k
C013
22
50V
C014
10
50V
R030
82K
R031
22k
IC004(2/2)
M5233L
AUTO POWER-OFF
R022
10k
Q003
2SA1048
MUTE
R033
22k
R034
10k
D004
RD9RIES
VOLT-WATCH
R035
10k
R036
22k
C029
10
50V
Q002
2SC2458
POWEROFF-MUTE
F001
2A
D001
RBA-402LF-A
AC-RECT
C030
0.01
R046
10(1/4W)
Q001
2SC2060
REGULATOR
17.2
8.5V
R047
1.8k
(1/2W)
9.2
R048
10k
C027
100
25V
C025
3300
25V
C026
100
25V
R049
10k
C028
100
25V
D003
RD9RIES
REF-VOLT
D002
ERA15-02
RECT

KV-27TS29/27TS32/27TS36
RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46
RM-Y118 RM-Y118 SA-W200

SUPER WOOFER

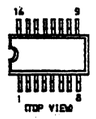
— SUPER WOOFER Board —



KV-27TS29/27TS32/27TS36 RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46 RM-Y118 RM-Y118 SA-W200

6-5. SEMICONDUCTORS

BU4053BF
CXA1315M



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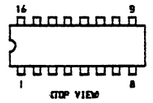
CXA1545AS

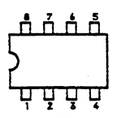
CXA1526P



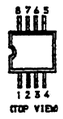
CXP80424-SV4397

ĐM-48
PM-38
PM-39

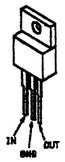
LM358P
μPC358C
μPC393C
24C02AI/P



LM358PS
MM1114XFF
MM1118XFF

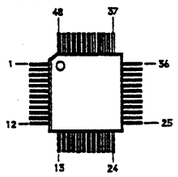


LM7805CT
LM7812CT
MC7809CT
RC7809FA



L78LR05Đ-MA

MB3512PF-EF



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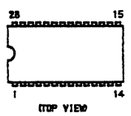
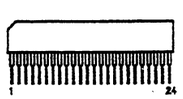
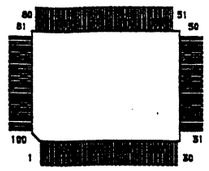


MB81461-12-PSZ-G-BF2



MB86144



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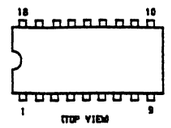

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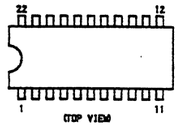
M52470AP



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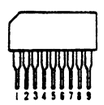
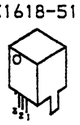


SBX1618-51



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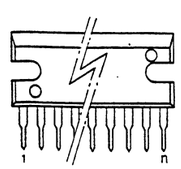

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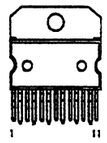

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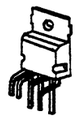

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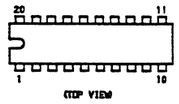

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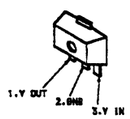

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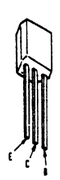
2SA1048
2SA2458



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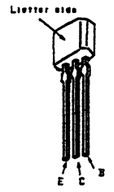
2SC2785-HFE
2SC3311A



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2SĐ2012
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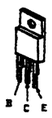

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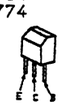
2SĐ601A

2SB734
2SĐ774



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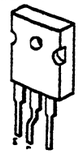

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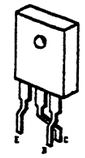

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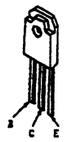
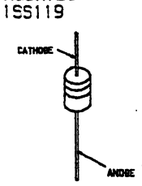


ĐINS4
Đ1N20R
ERA15-02
ERA82-004
ERA83-006
RĐ10ESB
RĐ10ESB2
RĐ12ESB3
RĐ13ESB
RĐ13ESB2
RĐ33ESB1
RĐ33ESB2
RĐ3.6ESB1
RĐ5.1ESB
RĐ5.1ESB1
RĐ8.2ESB3
RĐ9R1ES
1SS119



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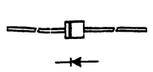

Đ4SB60L
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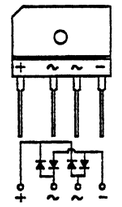
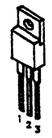


Đ5SC4MR



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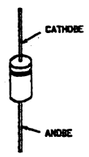

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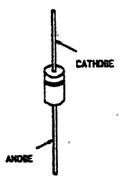
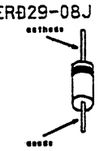
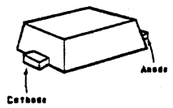


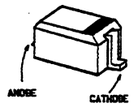
ERĐ29-08J



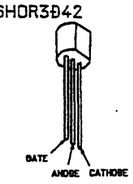
HVU359-TRU



MA110
1T33



SHOR3Đ42



SECTION 7
EXPLODED VIEWS

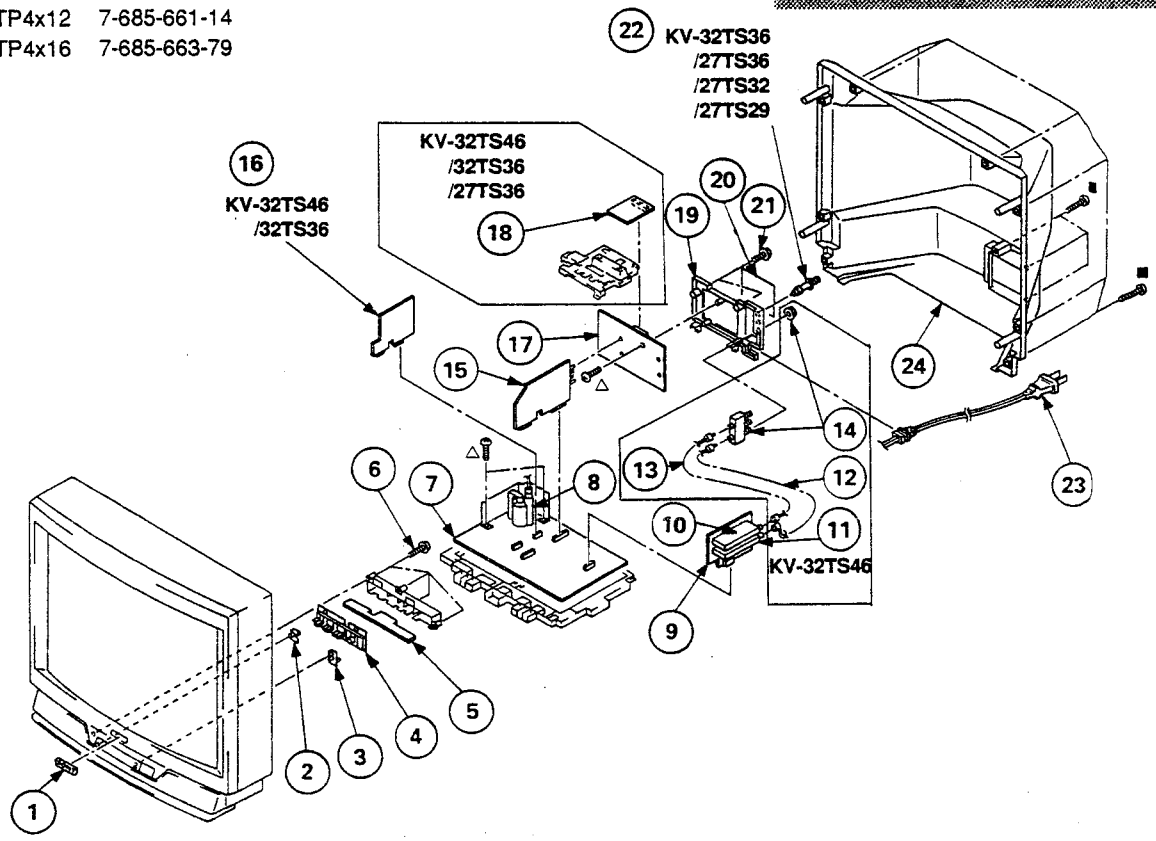
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

7-1. CHASSIS

△ : BVTP4x12 7-685-661-14
■ : BVTP4x16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-394-048-01	EMBLEM (NO.9), SONY	
2	4-039-458-01	FILTER, REMOTE	
3	4-039-457-01	GUIDE, LED	
4	4-039-525-01	BUTTON, MULTI	
5	*1-646-717-11	H BOARD	
6	4-319-520-11	SCREW, SPECIAL (+PW4X30)	
7	*A-1346-112-A	D BOARD, COMPLETE	(KV-32TS46/32TS36)
7	*A-1346-129-A	D BOARD, COMPLETE	(KV-27TS36/27TS32/27TS29)
8	⚠1-453-146-11	TRANSFORMER ASSY, FLYBACK (NX-2604A3)	
9	*A-1297-065-A	A BOARD, COMPLETE	(KV-32TS36/27TS36/27TS32/27TS29)
9	*A-1297-112-A	A BOARD, COMPLETE	(KV-32TS46)
10	⚠8-598-039-00	TUNER BTF-WA401	
11	⚠8-598-047-00	TUNER BTF-WA401	(KV-32TS46)
12	*1-751-136-11	CABLE, PIN	(KV-32TS46)
13	*1-751-135-11	CABLE, PIN	(KV-32TS46)
14	1-417-178-11	SELECTOR, ANTENNA (AS-2)	(KV-32TS46)
15	*A-1306-427-A	M BOARD, COMPLETE	(KV-32TS36/27TS36/27TS32/27TS29(US))
15	*A-1306-432-A	M BOARD, COMPLETE	(KV-32TS36(CND)/27TS36(CND)/27TS32/27TS29(CND))
15	*A-1306-433-A	M BOARD, COMPLETE	(KV-32TS46(CND))
15	*A-1306-434-A	M BOARD, COMPLETE	(KV-32TS46(US))
16	*A-1341-622-A	E BOARD, COMPLETE	(KV-32TS46/32TS36)
17	*A-1394-415-A	UA BOARD, COMPLETE	(KV-32TS36/27TS36)
17	*A-1394-441-A	UA BOARD, COMPLETE	(KV-27TS32)
17	*A-1394-437-A	UA BOARD, COMPLETE	(KV-27TS29)
17	*A-1394-435-A	UA BOARD, COMPLETE	(KV-32TS46)
18	*A-1195-062-A	P BOARD, COMPLETE	(KV-32TS46/32TS36/27TS36)
19	4-039-517-01	TERMINAL BOARD, ANTENNA	(KV-32TS46)
19	4-039-524-01	TERMINAL BOARD, ANTENNA	(KV-32TS36/27TS36/27TS32/27TS29)
20	4-040-090-01	LABEL, TERMINAL	(KV-27TS32)
20	4-039-903-01	LABEL, TERMINAL	(KV-27TS29)
20	4-039-834-01	LABEL, TERMINAL	(KV-32TS46/32TS36/27TS36)
21	4-382-854-11	SCREW (M3X10), P, SW (+)	
22	1-573-657-11	PLUG, F-PIN	(KV-32TS36/27TS36/27TS32/27TS29)
23	1-751-059-11	CORD, POWER (WITH CONNECTOR)	(10A/120V)
24	4-039-463-01	COVER, REAR	(KV-27TS36/27TS32/27TS29)
24	4-039-634-01	COVER, REAR	(KV-32TS36/32TS36)

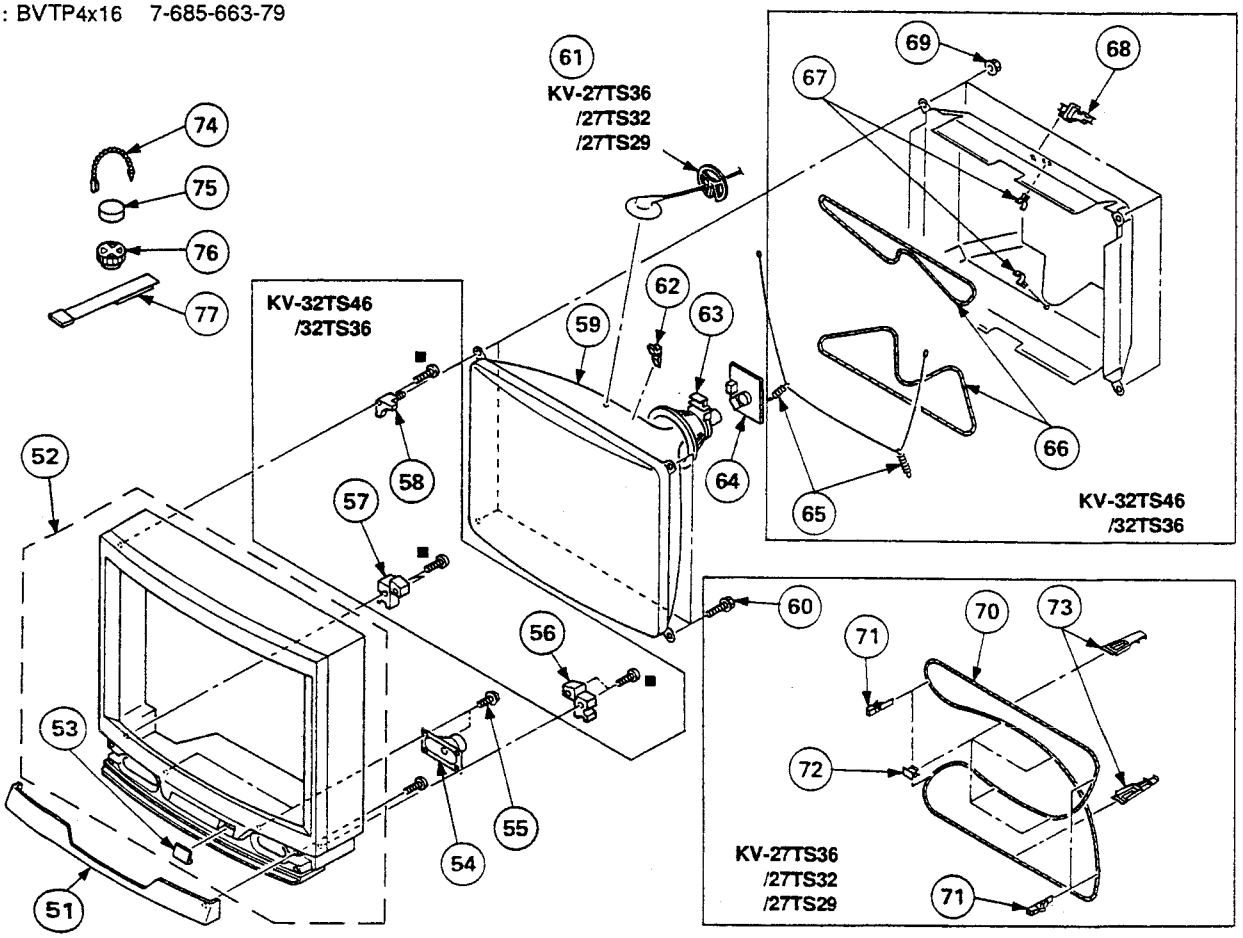
MC-Service

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

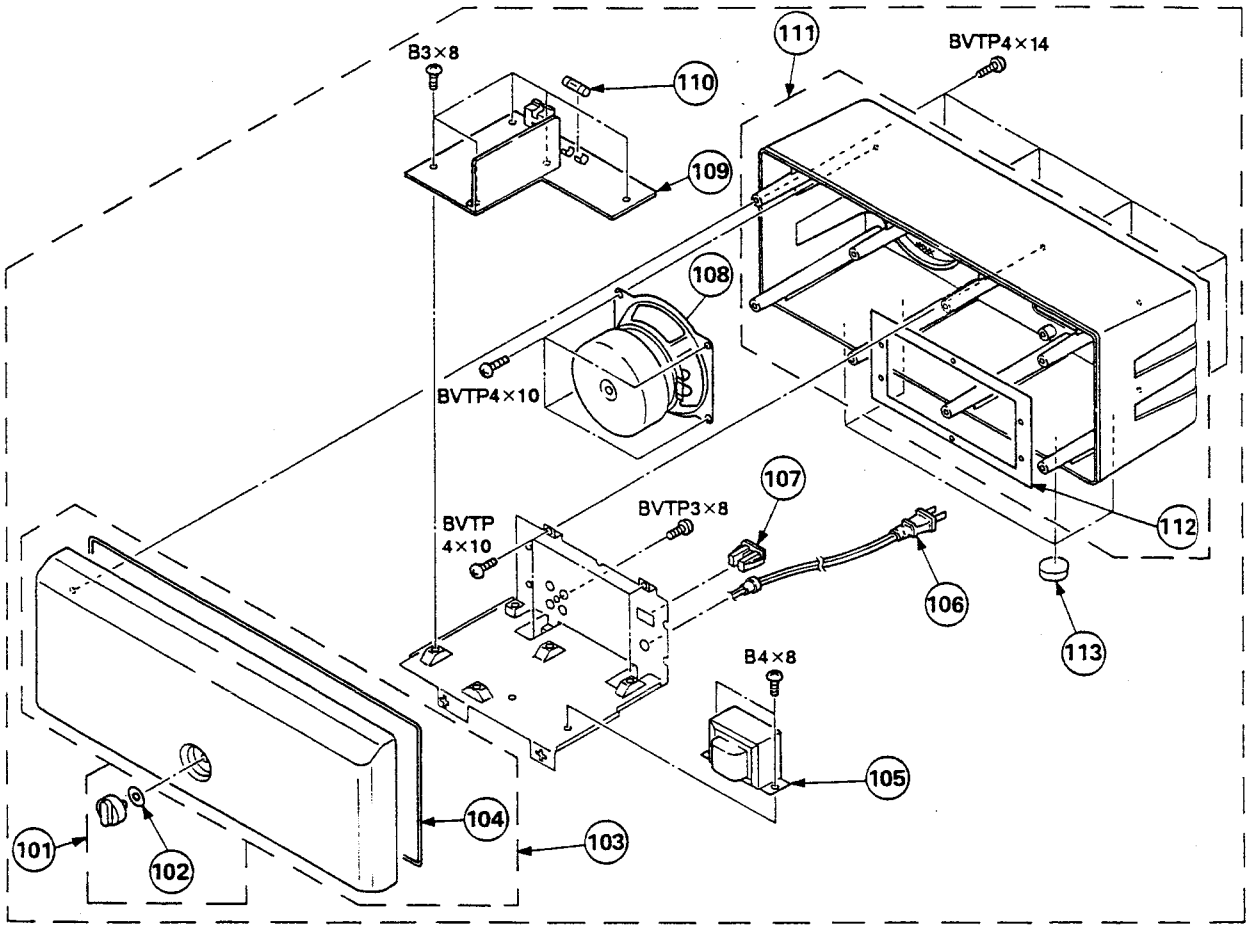
7-2. PICTURE TUBE

■ : BVTP4x16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
51	X-4031-018-1	GRILLE ASSY, SPEAKER (KV-32TS46/32TS36)	
51	X-4031-029-1	GRILLE ASSY, SPEAKER (KV-27TS36/27TS32/27TS29)	
52	X-4031-039-1	BEZNET ASSY (KV-27TS36)	53
52	X-4031-038-2	BEZNET ASSY (KV-27TS32)	53
52	X-4031-026-1	BEZNET ASSY (KV-27TS29)	53
52	X-4031-019-1	BEZNET ASSY (KV-32TS36)	53
52	X-4031-019-2	BEZNET ASSY (KV-32TS46)	53
53	4-039-462-01	DOOR, CONTROL (KV-32TS36/27TS36)	
53	4-039-462-11	DOOR, CONTROL (KV-27TS32)	
53	4-039-459-01	PANEL (KV-27TS29)	
53	4-039-462-21	DOOR, CONTROL (KV-32TS46)	
54	1-544-549-11	SPEAKER	
55	4-388-477-01	SCREW(3X16),TAPPING,+BV WASHER	
56	*4-031-428-01	SUPPORT (RIGHT) (PICTURE TUBE) (KV-32TS46/32TS36)	
57	*4-031-430-01	SUPPRT (LEFT) (PICTURE TUBE) (KV-32TS46/32TS36)	
58	4-031-429-01	BRACKET, PICTURE TUBE	
59	⚠.8-733-723-05	PICTURE TUBE (A80JYV50X) (KV-32TS46/32TS36)	
59	⚠.8-733-838-05	PICTURE TUBE (A68KZJ50X) (KV-27TS36/27TS32/27TS29)	
60	4-390-505-01	SCREW(7), TAPPING (KV-27TS36/27TS32/27TS29)	
61	*3-704-372-01	HOLDER, HV CABLE (KV-27TS36/27TS32/27TS29)	
62	3-704-495-01	SPACER, DY (KV-32TS46/32TS36)	
63	⚠.1-451-315-41	DEFLECTION YOKE (Y34FXA) (KV-32TS46/32TS36)	
63	⚠.1-451-275-41	DEFLECTION YOKE (Y34FXA) (KV-27TS36/27TS32/27TS29)	
64	*A-1331-264-A	C BOARD, COMPLETE	
65	4-036-329-01	SPRING (B), TENSION (KV-27TS36/27TS32/27TS29)	
66	⚠.1-402-952-11	COIL,DEMAGNETIZATION (KV-32TS46/32TS36)	
67	*4-371-629-01	STOPPER, WIRE (KV-32TS46/32TS36)	
68	4-033-681-01	HOLDER, LEAD (KV-32TS46/32TS36)	
69	4-387-204-01	NUT, SPECIAL, PICTURE TUBE (KV-32TS46/32TS36)	
70	1-406-726-11	COIL, DEGAUSSING (KV-27TS36/27TS32/27TS29)	
71	4-040-388-01	HOLDER(S), DGC (KV-27TS36/27TS32/27TS29)	
72	4-040-537-01	HOLDER(A), DGC (KV-27TS36/27TS32/27TS29)	
73	4-040-387-01	HOLDER(M), DGC (KV-27TS36/27TS32/27TS29)	
74	4-308-870-00	CLIP, LEAD WIRE	
75	1-452-032-00	MAGNET,DISK	
76	1-452-094-00	MAGMET, ROTATABLE; 15MM ϕ	
77	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	

7-3. SPEAKER (KV-32TS46 (US/CND))



The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
101	9-904-749-01	VOLUME NOB	102
102	9-904-748-01	FELT WASHER	
103	9-904-745-01	FRONT CASE	104
104	9-904-747-01	ENCLOSURE SEALANT TUBE	
105	⚠.9-904-751-01	TRANSFORMER, POWER	
106	⚠.9-904-750-01	CORD, POWER	
107	⚠.9-904-753-01	AC OUTLET	
108	9-900-278-01	SPEAKER	
109	9-904-754-01	AMP KIT(TWY1019-A)	
110	⚠.9-904-752-01	FUSE	
111	9-904-744-01	CABINET	112
112	9-904-746-01	ENCLOSURE SEALANT PACKING	
113	4-040-527-01	FOOT	

KV-27TS29/27TS32/27TS36
RM-Y116 RM-Y117 RM-Y118
KV-32TS36/32TS46
RM-Y118 RM-Y118
SA-W200

SECTION 8
ELECTRICAL PARTS LIST

P

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F: nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF: μF, PF: μμF

COILS
- MMH: mH, UH: μH

- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
Should replacement be required, replace only with the value originally used.

REF.NO.	PART NO.	DESCRIPTION			REMARK
*A-1195-062-A		P BOARD, COMPLETE (KV-32TS36/32TS46 ********** /27TS36)			
		<CAPACITOR>			
C3201	1-124-477-11	ELECT 47MF	20%	16V	
C3203	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	
C3204	1-124-907-11	ELECT 10MF	20%	50V	
C3205	1-124-907-11	ELECT 10MF	20%	50V	
C3206	1-124-907-11	ELECT 10MF	20%	50V	
C3207	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C3208	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C3209	1-123-382-00	ELECT 3.3MF	20%	50V	
C3210	1-124-477-11	ELECT 47MF	20%	16V	
C3212	1-123-382-00	ELECT 3.3MF	20%	50V	
C3213	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3214	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3215	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3216	1-164-005-11	CERAMIC CHIP 0.47MF		25V	
C3217	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3218	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3219	1-126-103-11	ELECT 470MF	20%	16V	
C3220	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3221	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3222	1-164-336-11	CERAMIC CHIP 0.33MF		25V	
C3223	1-164-336-11	CERAMIC CHIP 0.33MF		25V	
C3224	1-164-222-11	CERAMIC CHIP 0.22MF		25V	
C3225	1-164-222-11	CERAMIC CHIP 0.22MF		25V	
C3226	1-164-005-11	CERAMIC CHIP 0.47MF		25V	
C3227	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3228	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C3229	1-163-093-00	CERAMIC CHIP 10PF	5%	50V	
C3230	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C3231	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C3232	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C3233	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3234	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3235	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3236	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3237	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3238	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C3239	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C3240	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C3241	1-163-103-00	CERAMIC CHIP 27PF	5%	50V	
C3242	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3243	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C3244	1-163-113-00	CERAMIC CHIP 68PF	5%	50V	
C3245	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3246	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3247	1-163-033-00	CERAMIC CHIP 0.022MF		50V	
C3248	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C3249	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C3250	1-163-113-00	CERAMIC CHIP 68PF	5%	50V	
C3251	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3252	1-163-103-00	CERAMIC CHIP 27PF	5%	50V	
C3253	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C3254	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C3255	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C3256	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3257	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C3258	1-163-113-00	CERAMIC CHIP 68PF	5%	50V	
C3259	1-163-111-00	CERAMIC CHIP 56PF	5%	50V	
C3260	1-163-119-00	CERAMIC CHIP 120PF	5%	50V	
C3261	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C3263	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C3264	1-165-319-11	CERAMIC CHIP 0.1MF		50V	
C3265	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C3266	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C3267	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C3268	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C3269	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C3270	1-165-319-11	CERAMIC CHIP 0.1MF		50V	
C3271	1-165-319-11	CERAMIC CHIP 0.1MF		50V	
C3272	1-165-319-11	CERAMIC CHIP 0.1MF		50V	
C3273	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C3274	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C3275	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C3276	1-163-111-00	CERAMIC CHIP 56PF	5%	50V	
C3277	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C3278	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C3279	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C3280	1-124-907-11	ELECT 10MF	20%	50V	
C3282	1-164-346-11	CERAMIC CHIP 1MF		16V	
		<CONNECTOR>			
CN150	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P			
		<DIODE>			
D3202	8-719-031-68	DIODE HVU359-TRU			
D3203	8-719-404-46	DIODE MA110			
D3208	8-719-110-17	DIODE RD10ESB2			
D3209	8-719-110-17	DIODE RD10ESB2			
		<IC>			
IC3200	8-759-517-74	IC MB81461-12-PSZ-G-BF2			
IC3201	8-759-093-29	IC MB86144			
IC3202	8-759-093-28	IC MB40176PF-EF			
IC3203	8-759-093-28	IC MB40176PF-EF			
IC3204	8-759-093-26	IC MB3512PF-EF			

REF.NO.	PART NO.	DESCRIPTION				REMARK
IC3205	8-759-243-19	IC TC7SU04F				
		<COIL>				
L3201	1-410-470-11	INDUCTOR	10UH			
L3202	1-408-424-00	INDUCTOR	180UH			
L3203	1-408-424-00	INDUCTOR	180UH			
L3204	1-410-476-11	INDUCTOR	33UH			
L3205	1-410-470-11	INDUCTOR	10UH			
L3206	1-410-387-11	INDUCTOR	33UH			
L3207	1-410-387-11	INDUCTOR	33UH			
L3208	1-410-387-11	INDUCTOR	33UH			
L3209	1-410-387-11	INDUCTOR	33UH			
		<TRANSISTOR>				
Q3201	8-729-422-36	TRANSISTOR 2SB709A-Q				
Q3202	8-729-422-27	TRANSISTOR 2SD601A-Q				
Q3203	8-729-422-36	TRANSISTOR 2SB709A-Q				
Q3204	8-729-422-36	TRANSISTOR 2SB709A-Q				
Q3206	8-729-422-27	TRANSISTOR 2SD601A-Q				
Q3207	8-729-422-36	TRANSISTOR 2SB709A-Q				
Q3208	8-729-422-27	TRANSISTOR 2SD601A-Q				
Q3209	8-729-422-36	TRANSISTOR 2SB709A-Q				
Q3210	8-729-422-36	TRANSISTOR 2SB709A-Q				
		<RESISTOR>				
R3201	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R3202	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3203	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3204	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3205	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R3207	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R3208	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R3209	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R3210	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3211	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3212	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3213	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R3214	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R3215	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3216	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3217	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3218	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3219	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3220	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3221	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R3222	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R3223	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3224	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3225	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3226	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R3227	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R3228	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R3229	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3230	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3231	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3232	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R3233	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3234	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R3235	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R3236	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3237	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R3238	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3239	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R3241	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3242	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3243	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3244	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3245	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3246	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R3247	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R3248	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R3249	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3250	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R3251	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3252	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R3253	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3254	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R3255	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R3256	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R3259	1-216-298-00	METAL GLAZE	2.2	5%	1/10W	
R3260	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3263	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3264	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3265	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3266	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3267	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R3268	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R3269	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3270	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R3271	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R3273	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3274	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3275	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3276	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3277	1-216-298-00	METAL GLAZE	2.2	5%	1/10W	
		<CRYSTAL>				
X3201	1-567-878-11	VIBRATOR, CRYSTAL				
X3202	1-567-878-11	VIBRATOR, CRYSTAL				
	*A-1297-065-A	A BOARD, COMPLETE (KV-32TS36/27TS36 /27TS32/27TS29)				
	*A-1297-112-A	A BOARD, COMPLETE (KV-32TS46)				
		<CAPACITOR>				
C171	1-124-907-11	ELECT	10MF	20%	50V (KV-32TS46)	
C173	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C174	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C175	1-126-103-11	ELECT	470MF	20%	16V	
C176	1-126-103-11	ELECT	470MF	20%	16V	
C177	1-124-907-11	ELECT	10MF	20%	50V	
C178	1-126-101-11	ELECT	100MF	20%	16V	
C179	1-124-916-11	ELECT	22MF	20%	25V	
C180	1-124-916-11	ELECT	22MF	20%	25V (KV-32TS46)	
C181	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C182	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V (KV-32TS46)	
C184	1-124-907-11	ELECT	10MF	20%	50V (KV-32TS46)	

MC-Service

A M

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<CONNECTOR>	
CN103	*1-564-519-11	PLUG, CONNECTOR 4P	
CN151	*1-573-979-11	CONNECTOR, BOARD TO BOARD 11P	
CN152	1-750-394-11	PIN, CONNECTOR (STAKING) 32P	
CN164	*1-564-505-11	PLUG, CONNECTOR 2P	
CN165	*1-564-505-11	PLUG, CONNECTOR 2P	
		<DODE>	
D170	8-719-110-78	DIODE RD33ESB2	
D175	8-719-110-76	DIODE RD33ESB1	(KV-32TS46)
		<IC>	
IC172	8-759-932-67	IC BU4053BF	(KV-32TS46)
		<COIL>	
L170	1-408-408-00	INDUCTOR 8.2UH	
L171	1-408-408-00	INDUCTOR 8.2UH	
L172	1-408-408-00	INDUCTOR 8.2UH	
L173	1-408-408-00	INDUCTOR 8.2UH	(KV-32TS46)
		<TRANSISTOR>	
Q172	8-729-422-36	TRANSISTOR 2SB709A-Q	(KV-32TS46)
Q173	8-729-422-36	TRANSISTOR 2SB709A-Q	(KV-32TS46)
		<RESISTOR>	
R170	1-216-025-00	METAL GLAZE 100 5% 1/10W	(KV-32TS36/27TS36/27TS32/27TS29)
R173	1-216-295-00	METAL GLAZE 0 5% 1/10W	(KV-32TS46)
R174	1-216-689-11	METAL GLAZE 39K 5% 1/10W	
R175	1-215-900-11	METAL OXIDE 22K 5% 2W F	(KV-32TS46)
R176	1-216-295-00	METAL GLAZE 0 5% 1/10W	(KV-32TS36/27TS36/27TS32/27TS29)
R177	1-215-900-11	METAL OXIDE 22K 5% 2W F	
R179	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R181	1-216-025-00	METAL GLAZE 100 5% 1/10W	(KV-32TS46)
R185	1-216-025-00	METAL GLAZE 100 5% 1/10W	(KV-32TS46)
R187	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R188	1-216-689-11	METAL GLAZE 39K 5% 1/10W	(KV-32TS46)
R189	1-216-083-00	METAL GLAZE 27K 5% 1/10W	(KV-32TS46)
R190	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	(KV-32TS46)
R191	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	(KV-32TS46)
R193	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R196	1-216-037-00	METAL GLAZE 330 5% 1/10W	(KV-32TS46)
		<TUNER>	
TU101⚠	8-598-039-00	TUNER BTF-WA401	
TU102⚠	8-598-047-00	TUNER BTF-WA401	(KV-32TS46)

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*A-1306-427-A M BOARD, COMPLETE
****
(KV-32TS36(US)/27T36(US)/27TS32/27TS29(US))

*A-1306-432-A M BOARD, COMPLETE
****
(KV-32TS36(CND)/27TS36(CND)/27TS29(CND))

*A-1306-433-A M BOARD, COMPLETE (KV-32TS46(CND))
****

*A-1306-434-A M BOARD, COMPLETE (KV-32TS46(US))
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<CAPACITOR>	
C002	1-163-809-11	CERAMIC CHIP 0.047MF 10% 25V	
C003	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C005	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C006	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C007	1-124-903-11	ELECT 1MF 20% 50V	
C008	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C009	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C010	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C012	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C013	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C014	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C015	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C016	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C017	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C018	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C019	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C021	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C022	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C023	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C025	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C028	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C029	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C034	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	(KV-32TS46)
C035	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	(KV-32TS46)
C041	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
C043	1-163-159-00	CERAMIC CHIP 12PF 2% 50V	
C045	1-124-119-00	ELECT 330MF 20% 16V	
C047	1-104-896-91	CERAMIC CHIP 24PF 2% 50V	
C049	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C050	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C051	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C052	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C053	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C054	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C055	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C056	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C057	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V	
C058	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V	
C059	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C060	1-124-903-11	ELECT 1MF 20% 50V	
C061	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C062	1-124-907-11	ELECT 10MF 20% 50V	
C150	1-136-165-00	FILM 0.1MF 5% 50V	(KV-32TS46(US)/32TS36(US))
C151	1-136-175-00	FILM 0.068MF 5% 50V	(KV-32TS46(US)/32TS36(US))

REF.NO.	PART NO.	DESCRIPTION			REMARK
C152	1-124-907-11	ELECT	10MF	20%	50V (KV-32TS46(US)/32TS36(US))
C153	1-137-367-11	FILM	0.0033MF	5%	50V (KV-32TS46(US)/32TS36(US))
C154	1-163-038-00	CERAMIC CHIP	0.1MF		25V (KV-32TS46(US)/32TS36(US))
C155	1-124-907-11	ELECT	10MF	20%	50V (KV-32TS46(US)/32TS36(US))
C156	1-163-135-00	CERAMIC CHIP	560PF	5%	50V (KV-32TS46(US)/32TS36(US))
C157	1-163-038-00	CERAMIC CHIP	0.1MF		25V (KV-32TS46(US)/32TS36(US))
C158	1-124-903-11	ELECT	1MF	20%	50V (KV-32TS46(US)/32TS36(US))
C160	1-124-903-11	ELECT	1MF	20%	50V
C201	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C202	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C203	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C204	1-126-101-11	ELECT	100MF	20%	16V
C205	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C211	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C212	1-124-902-00	ELECT	0.47MF	20%	50V
C213	1-124-902-00	ELECT	0.47MF	20%	50V
C214	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C216	1-124-478-11	ELECT	100MF	20%	25V
C301	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C305	1-124-907-11	ELECT	10MF	20%	50V
C306	1-124-902-00	ELECT	0.47MF	20%	50V
C307	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C308	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C310	1-124-916-11	ELECT	22MF	20%	25V
C311	1-124-903-11	ELECT	1MF	20%	50V
C313	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C315	1-124-907-11	ELECT	10MF	20%	50V (KV-32TS46(US))
C316	1-124-907-11	ELECT	10MF	20%	50V (KV-32TS46(US))
C317	1-124-907-11	ELECT	10MF	20%	50V (KV-32TS46(US))
C318	1-136-165-00	FILM	0.1MF	5%	50V
C319	1-136-165-00	FILM	0.1MF	5%	50V
C320	1-136-165-00	FILM	0.1MF	5%	50V
C321	1-124-360-00	ELECT	1000MF	20%	16V
C322	1-136-153-00	FILM	0.01MF	5%	50V
C323	1-126-176-11	ELECT	220MF	20%	10V
C324	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C325	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C326	1-136-169-00	FILM	0.22MF	5%	50V
C327	1-136-169-00	FILM	0.22MF	5%	50V
C328	1-124-902-00	ELECT	0.47MF	20%	50V
C329	1-124-903-11	ELECT	1MF	20%	50V
C330	1-124-907-11	ELECT	10MF	20%	50V
C331	1-124-907-11	ELECT	10MF	20%	50V
C332	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C333	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C334	1-124-902-00	ELECT	0.47MF	20%	50V
C335	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C336	1-124-903-11	ELECT	1MF	20%	50V
C337	1-124-902-00	ELECT	0.47MF	20%	50V
C338	1-136-153-00	FILM	0.01MF	5%	50V
C340	1-124-903-11	ELECT	1MF	20%	50V
C341	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C342	1-137-414-91	FILM	0.0047MF	10%	100V

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<CONNECTOR>	
CN129	*1-564-523-11	PLUG, CONNECTOR 8P	
CN130	1-573-301-11	CONNECTOR, BOARD TO BOARD 20P	
CN131	*1-691-632-11	CONNECTOR, BOARD TO BOARD 15P	
CN134	*1-564-521-11	PLUG, CONNECTOR 6P	(KV-32TS46)
CN137	1-750-394-11	PIN, CONNECTOR (STAKING) 32P	
CN138	*1-564-511-31	PLUG, CONNECTOR 8P	
CN168	*1-564-505-11	PLUG, CONNECTOR 2P	
		<DIODE>	
D001	8-719-404-46	DIODE MA110	
D002	8-719-404-46	DIODE MA110	
D004	8-719-404-46	DIODE MA110	(KV-32TS46(US))
D005	8-713-300-57	DIODE 1T33	
D006	8-719-110-17	DIODE RD10ESB2	
D007	8-719-110-17	DIODE RD10ESB2	
D008	8-719-110-17	DIODE RD10ESB2	
D009	8-719-110-17	DIODE RD10ESB2	
D150	8-719-404-46	DIODE MA110	(KV-32TS46(US)/32TS36(US))
D201	8-719-404-46	DIODE MA110	
D202	8-719-404-46	DIODE MA110	
D205	8-719-110-17	DIODE RD10ESB2	
D206	8-719-110-17	DIODE RD10ESB2	
D301	8-719-110-17	DIODE RD10ESB2	
D304	8-719-110-17	DIODE RD10ESB2	
		<IC>	
IC101	8-752-841-16	IC CXP80424-SV4397	
IC102	8-759-057-38	IC 24C02AI/P	
IC150	8-759-084-09	IC Z8612812PSC	(KV-32TS46(US)/32TS36(US))
IC201	8-759-090-21	IC TDA8424	
IC202	8-759-983-69	IC UPC358PS	
IC301	8-752-059-67	IC CXA1465AS	
		<JUMPER RESISTOR>	
JR200	1-216-295-00	METAL GLAZE 0 5% 1/10W	
		<COIL>	
L001	1-410-470-11	INDUCTOR 10UH	
L002	1-408-414-00	INDUCTOR 27UH	
L150	1-410-470-11	INDUCTOR 10UH	(KV-32TS46(US)/32TS36(US))
		<TRANSISTOR>	
Q001	8-729-422-36	TRANSISTOR 2SB709A-Q	
Q002	8-729-422-36	TRANSISTOR 2SB709A-Q	
Q004	8-729-422-36	TRANSISTOR 2SB709A-Q	
Q005	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q151	8-729-422-27	TRANSISTOR 2SD601A-Q	(KV-32TS46(US)/32TS36(US))
Q201	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q301	8-729-422-36	TRANSISTOR 2SB709A-Q	
Q302	8-729-422-36	TRANSISTOR 2SB709A-Q	
Q307	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q308	8-729-422-27	TRANSISTOR 2SD601A-Q	

M

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R002	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R003	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R004	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R005	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R006	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R007	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R008	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R009	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R011	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R012	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R013	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R016	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R017	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R018	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R019	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R020	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R021	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R022	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R023	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R025	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R026	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R027	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R028	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R029	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R030	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R031	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R032	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R033	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R034	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R035	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R036	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R037	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R038	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R039	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R040	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R041	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R042	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R043	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R044	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R045	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R046	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R047	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R048	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R049	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R050	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R051	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R052	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R053	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R054	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R055	1-216-033-00	METAL GLAZE	220	5%	1/10W	(KV-32TS46)
R058	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R059	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R061	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R062	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R063	1-216-033-00	METAL GLAZE	220	5%	1/10W	(KV-32TS46)
R064	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R065	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R066	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R067	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R069	1-216-033-00	METAL GLAZE	220	5%	1/10W	(KV-32TS46)
R074	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R075	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R076	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R078	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R079	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R080	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R082	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R083	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R086	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R087	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R089	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R090	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R091	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R092	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R093	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R150	1-216-097-00	METAL GLAZE	100K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R151	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R152	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R153	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R154	1-216-041-00	METAL GLAZE	470	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R155	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R156	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R157	1-216-073-00	METAL GLAZE	10K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R158	1-216-073-00	METAL GLAZE	10K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R159	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R160	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R161	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R162	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R163	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R164	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R165	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R166	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R168	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(KV-32TS46(US)/32TS36(US))
R201	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R202	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R203	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R204	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R205	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R206	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R207	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R208	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R209	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R210	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R211	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R212	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R213	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R218	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

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Replace only with part number specified.

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Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R219	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R220	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R222	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R223	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R301	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R302	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R303	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R306	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R312	1-216-119-00	METAL GLAZE	820K	5%	1/10W	
R313	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R321	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R323	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R324	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R327	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R328	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R329	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R330	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R331	1-216-678-11	METAL CHIP	13K	0.50%	1/10W	
R332	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R333	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R334	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R335	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R336	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R337	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R338	1-249-417-11	CARBON	1K	5%	1/4W	F
R339	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R340	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R341	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R342	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R343	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R344	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R345	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R346	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R347	1-249-409-91	CARBON	220	5%	1/4W	F
R348	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R349	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R350	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R351	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R352	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R353	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R354	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R356	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R374	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R375	1-216-033-00	METAL GLAZE	220	5%	1/10W	

<CRYSTAL>

X001	1-579-917-21	VIBRATOR, CRYSTAL
X001	1-579-917-41	VIBRATOR, CRYSTAL
X301	1-567-505-11	OSCILLATOR, CRYSTAL

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*A-1331-264-A C BOARD, COMPLETE
****

<CAPACITOR>

C700	1-102-074-00	CERAMIC	0.001MF	10%	50V
C701	1-162-114-00	CERAMIC	0.0047MF		2KV
C702	1-106-375-12	MYLAR	0.022MF	99%	200V
C703	1-106-375-12	MYLAR	0.022MF	99%	200V
C704	1-162-116-00	CERAMIC	680PF	10%	2KV
C705	1-123-946-00	ELECT	4.7MF	20%	250V
C706	1-126-101-11	ELECT	100MF	20%	16V
C707	1-102-129-00	CERAMIC	0.01MF	10%	50V
C711	1-164-083-11	CERAMIC	680PF	10%	50V
C712	1-164-081-11	CERAMIC	470PF	10%	50V
C731	1-164-083-11	CERAMIC	680PF	10%	50V
C732	1-164-081-11	CERAMIC	470PF	10%	50V
C751	1-164-083-11	CERAMIC	680PF	10%	50V
C752	1-164-083-11	CERAMIC	680PF	10%	50V

<CONNECTOR>

CN701	1-695-915-11	TAB (CONTACT)	
CN702	*1-508-768-00	PIN, CONNECTOR (5MM PITCH)	6P
CN703	*1-564-511-11	PLUG, CONNECTOR	8P

<DIODE>

D711	8-719-911-19	DIODE 1SS119
D712	8-719-911-19	DIODE 1SS119
D731	8-719-911-19	DIODE 1SS119
D732	8-719-911-19	DIODE 1SS119
D751	8-719-911-19	DIODE 1SS119
D752	8-719-911-19	DIODE 1SS119
D770	8-719-911-19	DIODE 1SS119
D771	8-719-911-19	DIODE 1SS119
D772	8-719-911-19	DIODE 1SS119
D773	8-719-911-19	DIODE 1SS119
D777	8-719-109-68	DIODE RD3.6ESB1
D790	8-719-911-19	DIODE 1SS119
D791	8-719-911-19	DIODE 1SS119
D792	8-719-911-19	DIODE 1SS119
D793	8-719-911-19	DIODE 1SS119
D794	8-719-911-19	DIODE 1SS119
D795	8-719-911-19	DIODE 1SS119

<SOCKET>

J701	⚠1-540-071-13	SOCKET, PICTURE TUBE	

<COIL>

L701	1-410-478-11	INDUCTOR	47UH

<TRANSISTOR>

Q711	8-729-926-73	TRANSISTOR 2SC3271-N
Q712	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q731	8-729-926-73	TRANSISTOR 2SC3271-N
Q732	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q751	8-729-926-73	TRANSISTOR 2SC3271-N
Q752	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q770	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q771	8-729-200-17	TRANSISTOR 2SA1071-O
Q772	8-729-200-17	TRANSISTOR 2SA1071-O
Q773	8-729-200-17	TRANSISTOR 2SA1071-O
Q790	8-729-119-78	TRANSISTOR 2SC2785-HFE

<RESISTOR>

R700	1-247-739-11	CARBON	100	5%	1/2W	
R701	1-244-941-00	CARBON	680K	5%	1/2W	
R702	1-249-496-11	CARBON	100K	5%	1/2W	
R703	1-249-496-11	CARBON	100K	5%	1/2W	
R704	1-216-398-11	METAL OXIDE	5.6	5%	3W	F

MC-Service

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R705	1-216-398-11	METAL OXIDE	5.6	5%	3W	F
R706	1-214-921-00	CARBON	220K	5%	1/2W	
R710	1-247-758-11	CARBON	3.3K	5%	1/2W	
R711	1-249-405-11	CARBON	100	5%	1/4W	
R712	1-215-924-00	METAL OXIDE	15K	5%	3W	F
R714	1-249-425-11	CARBON	4.7K	5%	1/4W	
R716	1-249-417-11	CARBON	1K	5%	1/4W	
R717	1-249-393-11	CARBON	10	5%	1/4W	
R718	1-249-413-11	CARBON	470	5%	1/4W	
R730	1-247-758-11	CARBON	3.3K	5%	1/2W	
R731	1-249-405-11	CARBON	100	5%	1/4W	
R732	1-215-924-00	METAL OXIDE	15K	5%	3W	F
R734	1-249-425-11	CARBON	4.7K	5%	1/4W	
R736	1-249-411-11	CARBON	330	5%	1/4W	
R737	1-249-393-11	CARBON	10	5%	1/4W	
R750	1-247-758-11	CARBON	3.3K	5%	1/2W	
R751	1-249-405-11	CARBON	100	5%	1/4W	
R752	1-215-924-00	METAL OXIDE	15K	5%	3W	F
R754	1-249-425-11	CARBON	4.7K	5%	1/4W	
R756	1-249-411-11	CARBON	330	5%	1/4W	
R757	1-249-393-11	CARBON	10	5%	1/4W	
R770	1-249-433-11	CARBON	22K	5%	1/4W	
R771	1-249-409-91	CARBON	220	5%	1/4W	F
R772	1-249-409-91	CARBON	220	5%	1/4W	F
R773	1-249-409-91	CARBON	220	5%	1/4W	F
R774	1-249-437-11	CARBON	47K	5%	1/4W	
R775	1-249-417-11	CARBON	1K	5%	1/4W	F
R776	1-249-409-91	CARBON	220	5%	1/4W	F
R790	1-249-413-11	CARBON	470	5%	1/4W	
R791	1-249-412-11	CARBON	390	5%	1/4W	
R792	1-249-424-11	CARBON	3.9K	5%	1/4W	
R794	1-249-424-11	CARBON	3.9K	5%	1/4W	
R796	1-249-424-11	CARBON	3.9K	5%	1/4W	
R798	1-249-437-11	CARBON	47K	5%	1/4W	
R799	1-249-437-11	CARBON	47K	5%	1/4W	

<VARIABLE RESISTOR>

RV701⚠	1-241-656-21	RES, ADJ, METAL FILM 11OK	
RV702	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	

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*A-1341-622-A E BOARD, COMPLETE (KV-32TS36/32TS46)
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*1-508-765-00 PIN, CONNECTOR (5MM PITCH) 3P

<CAPACITOR>

C1501	1-126-103-11	ELECT	470MF	20%	16V
C1502	1-137-372-11	FILM	0.022MF	5%	50V
C1503	1-102-234-00	CERAMIC	270PF	10%	500V
C1504	1-136-165-00	FILM	0.1MF	5%	50V
C1505	1-124-907-11	ELECT	10MF	20%	50V
C1507	1-124-907-11	ELECT	10MF	20%	50V
C1509	1-136-165-00	FILM	0.1MF	5%	50V
C1510	1-137-370-11	FILM	0.01MF	5%	50V
C1516	1-136-165-00	FILM	0.1MF	5%	50V
C1519	1-136-104-00	FILM	0.16MF	5%	200V
C1522	1-124-360-00	ELECT	1000MF	20%	16V
C1523	1-136-177-00	FILM	1MF	5%	50V
C1524	1-124-927-11	ELECT	4.7MF	20%	50V
C1529	1-124-907-11	ELECT	10MF	20%	50V
C1530	1-124-907-11	ELECT	10MF	20%	50V
C1532	1-124-477-11	ELECT	47MF	20%	16V
C1533	1-124-916-11	ELECT	22MF	20%	25V
C1542	1-124-477-11	ELECT	47MF	20%	16V
C1550	1-136-756-11	FILM	0.24MF	5%	200V

<CONNECTOR>

CN122	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P
CN123	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P

<DIODE>

D1501	8-719-911-19	DIODE 1SS119
D1502	8-719-801-35	THYRISTOR SHOR3D42
D1503	8-719-980-78	DIODE ERA83-006
D1504	8-719-300-33	DIODE RU-3AM
D1505	8-719-911-19	DIODE 1SS119
D1506	8-719-911-19	DIODE 1SS119
D1507	8-719-911-19	DIODE 1SS119
D1508	8-719-110-17	DIODE RD10ESB2
D1509	8-719-110-17	DIODE RD10ESB2
D1510	8-719-911-19	DIODE 1SS119
D1513	8-719-300-33	DIODE RU-3AM
D1515	8-719-911-19	DIODE 1SS119
D1516	8-719-913-44	DIODE ERA82-004
D1517	8-719-911-19	DIODE 1SS119

<IC>

IC1501	8-752-052-88	IC CXA1526P
IC1502	8-759-982-10	IC RC7809FA
IC1504	8-759-135-80	IC UPC358C

<COIL>

L1502	1-459-592-11	COIL (WITH CORE) (PMC)
L1504	1-459-474-11	COIL (WITH CORE)

<TRANSISTOR>

Q1501	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1502	8-729-140-96	TRANSISTOR 2SD774-34
Q1503	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q1506	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1507	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1508	8-729-140-97	TRANSISTOR 2SB734-34
Q1509	8-729-140-97	TRANSISTOR 2SB734-34
Q1511	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q1514	8-729-209-15	TRANSISTOR 2SD2012
Q1519	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1520	8-729-119-78	TRANSISTOR 2SC2785-HFE

<RESISTOR>

R1501	1-249-409-11	CARBON	220	5%	1/4W
R1502	1-249-409-11	CARBON	220	5%	1/4W
R1503	1-249-435-11	CARBON	33K	5%	1/4W
R1504	1-249-429-11	CARBON	10K	5%	1/4W
R1505	1-249-421-11	CARBON	2.2K	5%	1/4W
R1506	1-249-423-11	CARBON	3.3K	5%	1/4W
R1507	1-249-410-11	CARBON	270	5%	1/4W
R1508	1-249-437-11	CARBON	47K	5%	1/4W
R1509	1-249-429-11	CARBON	10K	5%	1/4W
R1510	1-215-461-00	METAL	47K	1%	1/4W

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R1511	1-216-379-11	METAL OXIDE	6.8	5%	2W	F
R1513	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1514	1-247-885-00	CARBON	180K	5%	1/4W	
R1515	1-215-905-11	METAL OXIDE	10	5%	3W	F
R1519	1-249-417-11	CARBON	1K	5%	1/4W	
R1520	1-249-417-11	CARBON	1K	5%	1/4W	
R1522	1-249-417-11	CARBON	1K	5%	1/4W	
R1527	1-249-417-11	CARBON	1K	5%	1/4W	F
R1528	1-249-438-11	CARBON	56K	5%	1/4W	
R1529	1-249-434-11	CARBON	27K	5%	1/4W	
R1530	1-249-432-11	CARBON	18K	5%	1/4W	
R1533	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1534	1-249-424-11	CARBON	3.9K	5%	1/4W	
R1535	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1536	1-215-857-11	METAL OXIDE	10	5%	1W	F
R1537	1-249-404-00	CARBON	82	5%	1/4W	
R1538	1-216-379-11	METAL OXIDE	6.8	5%	2W	F
R1541	1-249-441-11	CARBON	100K	5%	1/4W	
R1543	1-249-414-11	CARBON	560	5%	1/4W	
R1546	1-215-885-00	METAL OXIDE	68	5%	2W	F
R1552	1-249-426-11	CARBON	5.6K	5%	1/4W	
R1554	1-249-393-11	CARBON	10	5%	1/4W	
R1556	1-249-438-11	CARBON	56K	5%	1/4W	
R1559	1-249-429-11	CARBON	10K	5%	1/4W	
R1564	1-249-435-11	CARBON	33K	5%	1/4W	
R1568	1-247-891-00	CARBON	330K	5%	1/4W	
R1569	1-249-413-11	CARBON	470	5%	1/4W	
R1578	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1582	1-249-411-11	CARBON	330	5%	1/4W	
R1583	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1585	1-249-441-11	CARBON	100K	5%	1/4W	
R1586	1-247-891-00	CARBON	330K	5%	1/4W	

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*A-1346-112-A D BOARD, COMPLETE (KV-27TS36/27TS32 **********/27TS29)

*A-1346-129-A D BOARD, COMPLETE (KV-32TS46/32TS36) **********

1-533-223-11 CLIP, FUSE
4-382-854-11 SCREW (M3X10), P, SW (+)

<CAPACITOR>

C501	1-124-557-11	ELECT	1000MF	20%	25V
C502	1-162-131-11	CERAMIC	220PF	10%	2KV
C503	1-124-557-11	ELECT	1000MF	20%	25V
C504	1-137-366-11	FILM	0.0022MF	5%	50V
C505	1-124-916-11	ELECT	22MF	20%	25V
C506	1-124-929-11	ELECT	22MF	20%	100V
C507	1-124-046-00	ELECT	10MF	20%	160V
C509	1-124-916-11	ELECT	22MF	20%	25V
C511	1-123-024-21	ELECT	33MF		160V
C512	1-102-212-00	CERAMIC	820PF	10%	500V
C513	1-102-212-00	CERAMIC	820PF	10%	500V
C514	1-102-244-00	CERAMIC	220PF	10%	500V
C515	1-137-416-11	FILM	0.01MF	10%	100V
C517	1-162-116-00	CERAMIC	680PF	10%	2KV
C518	1-162-116-00	CERAMIC	680PF	10%	2KV
C519 ⚠	1-137-024-11	FILM	0.02MF	3%	2KV
C520 ⚠	1-162-134-91	CERAMIC	470PF	10%	2KV
C521 ⚠	1-136-316-51	FILM	0.056MF	5%	630V
C522	1-106-383-00	MYLAR	0.047MF	99%	200V
C523	1-102-002-00	CERAMIC	680PF	10%	500V
C524	1-102-212-00	CERAMIC	820PF	10%	500V
C525	1-124-902-00	ELECT	0.47MF	20%	50V
C526	1-106-395-00	MYLAR	0.15MF	10%	200V
C527	1-124-341-00	ELECT	1MF	20%	200V
C528	1-136-113-00	FILM	2MF	5%	200V
C529	1-137-410-11	FILM	0.001MF	10%	100V
C530	1-104-770-11	FILM	0.62MF	5%	200V
C530	1-104-844-11	CAP, FILM (S)	0.62MF		
C531	1-124-477-11	ELECT	47MF	20%	25V
C532	1-136-165-00	FILM	0.1MF	5%	50V
C533	1-124-927-11	ELECT	4.7MF	20%	50V
C534	1-136-161-00	FILM	0.047MF	5%	50V
C535	1-124-911-11	ELECT	220MF	20%	50V
C536	1-137-421-91	FILM	0.068MF	10%	100V
C538	1-136-161-00	FILM	0.047MF	5%	50V
C540	1-137-366-11	FILM	0.0022MF	5%	50V
C541	1-137-366-11	FILM	0.0022MF	5%	50V
C542	1-130-481-00	FILM	0.0068MF	5%	50V
C545	1-124-927-11	ELECT	4.7MF	20%	50V
C547	1-164-079-11	CERAMIC	330PF	10%	50V
C548 ⚠	1-162-116-91	CERAMIC	680PF	10%	2KV
C550	1-106-387-00	MYLAR	0.068MF	10%	200V
C553	1-164-079-11	CERAMIC	330PF	10%	50V
C561	1-162-815-11	CERAMIC	47PF	5%	500V
C595	1-123-932-00	ELECT	4.7MF	20%	160V
C598	1-124-342-00	ELECT	3.3MF	20%	160V
C600	1-124-907-11	ELECT	10MF	20%	50V
C601 ⚠	1-136-311-51	FILM	0.47MF	20%	125V
C602 ⚠	1-136-311-51	FILM	0.47MF	20%	125V
C603 ⚠	1-136-311-51	FILM	0.47MF	20%	125V
C604 ⚠	1-162-578-81	CERAMIC	0.0047MF	20%	400V
C607	1-104-757-11	ELECT	470MF	20%	200V
C608	1-104-757-11	ELECT	470MF	20%	200V
C609	1-136-169-00	FILM	0.22MF	5%	50V
C610	1-136-169-00	FILM	0.22MF	5%	50V
C611	1-136-169-00	FILM	0.22MF	5%	50V
C612	1-136-169-00	FILM	0.22MF	5%	50V
C613	1-164-625-11	CERAMIC	680PF	10%	500V
C614	1-164-625-11	CERAMIC	680PF	10%	500V
C616	1-124-907-11	ELECT	10MF	20%	50V
C617	1-124-618-11	ELECT	2200MF	20%	35V
C618	1-124-557-11	ELECT	1000MF	20%	25V
C619	1-124-360-00	ELECT	1000MF	20%	16V
C620	1-164-644-11	CERAMIC	330PF	10%	500V
C621	1-126-356-11	ELECT	220MF	20%	160V
C623	1-162-117-00	CERAMIC	100PF	10%	500V
C624	1-136-487-81	FILM	0.015MF	5%	50V
C625	1-129-744-91	FILM	0.027MF	10%	400V
C626	1-124-478-11	ELECT	100MF	20%	25V
C627	1-124-443-00	ELECT	100MF	20%	10V
C628 ⚠	1-164-497-51	CERAMIC	470PF	20%	400V
C634	1-165-127-11	CERAMIC	470PF	10%	500V
C635	1-124-477-11	ELECT	47MF	20%	16V
C636	1-137-374-11	FILM	0.047MF	5%	50V
C637	1-124-916-11	ELECT	22MF	20%	25V
C640	1-124-902-00	ELECT	0.47MF	20%	50V
C641	1-124-443-00	ELECT	100MF	20%	10V
C642	1-137-217-11	FILM	0.01MF	5%	1.25KV
C643	1-137-218-11	FILM	0.012MF	5%	1.25KV
C645	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C646	1-126-101-11	ELECT	100MF	20%	16V
C647	1-124-916-11	ELECT	22MF	20%	25V
C684	1-124-907-11	ELECT	10MF	20%	50V

D

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C695	1-124-907-11	ELECT	10MF	20%	50V
C2205	1-124-925-11	ELECT	2.2MF	20%	50V
C2208	1-124-925-11	ELECT	2.2MF	20%	50V
C2210	1-124-120-11	ELECT	220MF	20%	25V
C2211	1-124-477-11	ELECT	47MF	20%	25V
C2212	1-124-120-11	ELECT	220MF	20%	25V
C2213	1-136-173-00	FILM	0.47MF	5%	50V
C2215	1-136-169-00	FILM	0.22MF	5%	50V
C2216	1-124-480-11	ELECT	470MF	20%	25V
C2217	1-136-169-00	FILM	0.22MF	5%	50V
C2218	1-124-557-11	ELECT	1000MF	20%	25V
C2219	1-124-557-11	ELECT	1000MF	20%	25V
C2220	1-124-925-11	ELECT	2.2MF	20%	50V
		<CONNECTOR>			
CN104	*1-573-979-11	CONNECTOR, BOARD TO BOARD 11P			
CN105	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P			
CN107	*1-580-798-11	CONNECTOR PIN (DY) 6P			
CN108	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P (KV-32TS46/32TS36)			
CN109	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P (KV-32TS46/32TS36)			
CN112	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
CN113	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P			
CN114	*1-580-843-11	PIN, CONNECTOR (POWER)			
CN115	1-573-298-11	CONNECTOR, BOARD TO BOARD 20P			
CN116	*1-691-616-11	CONNECTOR, BOARD TO BOARD 15P			
CN117	*1-573-978-11	CONNECTOR, BOARD TO BOARD 11P			
		<DIODE>			
D501	8-719-976-64	DIODE RGP02-17			
D502	8-719-979-85	DIODE EGP20G			
D503	8-719-979-85	DIODE EGP20G			
D504 ⚠	8-719-302-44	DIODE EL1Z-V1			
D505	8-719-936-84	DIODE RGP10GPKG3			
D506	8-719-945-80	DIODE ERC06-15S			
D507	8-719-945-80	DIODE ERC06-15S			
D508	8-719-900-26	DIODE ERD29-08J			
D509	8-719-936-84	DIODE RGP10GPKG3			
D510	8-719-908-03	DIODE GP08D			
D511	8-719-908-03	DIODE GP08D			
D512	8-719-109-84	DIODE RD5.1ESB1			
D513	8-719-908-03	DIODE GP08D			
D514	8-719-911-19	DIODE 1SS119			
D515	8-719-911-19	DIODE 1SS119			
D601	8-719-911-19	DIODE 1SS119			
D602 ⚠	8-719-510-63	DIODE D4SB60L-F			
D603	8-719-500-69	DIODE S3V10SS			
D605	8-719-500-69	DIODE S3V10SS			
D607	8-719-510-02	DIODE D1NS4			
D608	8-719-510-02	DIODE D1NS4			
D609	8-719-510-02	DIODE D1NS4			
D610	8-719-510-02	DIODE D1NS4			
D611	8-719-510-02	DIODE D1NS4			
D612	8-719-031-80	DIODE D5SC4MR			
D613	8-719-022-97	DIODE D2S4MF			
D614	8-719-110-33	DIODE RD12ESB3			
D615	8-719-027-43	DIODE S2L20UF			
D616	8-719-027-43	DIODE S2L20UF			
D617	8-719-027-43	DIODE S2L20UF			
D618	8-719-027-43	DIODE S2L20UF			
D619	8-719-510-02	DIODE D1NS4			
D622	8-719-911-19	DIODE 1SS119			
D623	8-719-911-19	DIODE 1SS119			
D624	8-719-911-19	DIODE 1SS119			
D626	8-719-510-48	DIODE D1N20R			
D627	8-719-510-48	DIODE D1N20R			
D628	8-719-911-19	DIODE 1SS119			
D633	8-719-110-09	DIODE RD8.2ESB3			
D634	8-719-911-19	DIODE 1SS119			
D635	8-719-911-19	DIODE 1SS119			
D636	8-719-510-48	DIODE D1N20R			
D637	8-719-911-19	DIODE 1SS119			
D638	8-719-911-19	DIODE 1SS119			
		<FUSE>			
F601 ⚠	1-532-748-11	FUSE, GLASS TUBE (6.3A/125V)			
		<FERRITE BEAD>			
FB501	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB502	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB601	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB602	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB603	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB604	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB605	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB606	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB613	1-412-911-11	INDUCTOR, FERRITE BEAD			
FB614	1-412-911-11	INDUCTOR, FERRITE BEAD			
		<IC>			
IC501	8-759-980-58	IC TDA8172			
IC504	8-759-103-93	IC UPC393C			
		<POWER MODULE>			
IC601 ⚠	1-810-051-11	POWER MODULE DM-48			
		<IC>			
IC602	8-759-805-37	IC L78LR05D-MA			
IC604	8-759-924-12	IC LM7805CT			
IC605	8-759-701-79	IC LM7812CT			
IC606	8-759-982-10	IC RC7809FA			
IC610	8-759-150-61	IC UPC78L05T			
IC2200	8-759-980-43	IC TDA2009A			
		<COIL>			
L502	1-421-465-00	COIL, FERRITE CHOKE 68UH			
L503	1-412-524-11	INDUCTOR 8.2UH			
L504	1-410-669-31	INDUCTOR 33UH			
L505	1-459-104-00	COIL, WITH CORE			
L506	1-422-613-11	COIL, AIR CORE			
L508	1-412-553-11	INDUCTOR 3.3MMH			
L509 ⚠	1-460-173-21	COIL, HORIZONTAL LINEARITY (HLC)			
L510	1-406-607-11	COIL, CHOKE 15MMH			
L513	1-412-524-11	INDUCTOR 8.2UH			

MC-Service

D

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

• The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
Should replacement be required, replace only with the value originally used.

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<PROTECTOR MODULE>				
PM501	1-810-061-11	PROTECTOR MODULE PM-39 (KV-27TS36/27TS32/27TS29)				
PM501	1-810-061-21	PROTECTOR MODULE PM-39 (KV-32TS46/32TS36)				
		<IC LINK>				
PS2201⚠	1-532-675-91	LINK, IC				
		<TRANSISTOR>				
Q502	8-729-119-80	TRANSISTOR 2SC2688-LK				
Q503	8-729-809-29	TRANSISTOR 2SC4159-E				
Q505	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q591	8-729-016-32	TRANSISTOR 2SC4927-01				
Q601	8-729-019-51	TRANSISTOR 2SC4834MNP				
Q602	8-729-019-51	TRANSISTOR 2SC4834MNP				
Q603	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q604	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q605	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q611	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q613	8-729-924-90	TRANSISTOR 2SB1370-EF				
Q614	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q2202	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q2203	8-729-119-76	TRANSISTOR 2SA1175-HFE				
		<RESISTOR>				
R501	1-249-378-11	CARBON	0.56	5%	1/4W	F
R503	1-215-862-11	METAL OXIDE	68	5%	1W	F
R504	1-215-872-11	METAL OXIDE	3.3K	5%	1W	F
R505	1-249-377-11	CARBON	0.47	5%	1/4W	F
R506	1-215-886-11	METAL OXIDE	100	5%	2W	F
R507	1-249-429-11	CARBON	10K	5%	1/4W	
R508	1-249-425-11	CARBON	4.7K	5%	1/4W	
R509	1-249-389-11	CARBON	4.7	5%	1/4W	F
⊠R511⚠		CARBON			1/4W	
R512	1-249-389-11	CARBON	4.7	5%	1/4W	F
R513	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R514	1-249-429-11	CARBON	10K	5%	1/4W	
R515	1-216-363-00	METAL OXIDE	0.33	5%	2W	F
R516	1-249-401-11	CARBON	47	5%	1/4W	
R517	1-215-916-00	METAL OXIDE	680	5%	3W	F
R518	1-215-916-00	METAL OXIDE	680	5%	3W	F
R519	1-249-426-11	CARBON	5.6K	5%	1/4W	F
R520	1-249-423-11	CARBON	3.3K	5%	1/4W	
R521	1-249-411-11	CARBON	330	5%	1/4W	
R522	1-215-886-11	METAL OXIDE	100	5%	2W	F
R523	1-215-862-11	METAL OXIDE	68	5%	1W	F
⊠R524⚠		CARBON			1/4W	
R526	1-247-887-00	CARBON	220K	5%	1/4W	
R527	1-215-861-00	METAL OXIDE	47	5%	1W	F
R528	1-260-326-71	CARBON	680	5%	1/2W	
R530	1-215-445-00	METAL	10K	1%	1/4W	
R531	1-247-903-91	CARBON	1M	5%	1/4W	
R532	1-215-446-00	METAL	11K	1%	1/4W	
R534	1-249-385-11	CARBON	2.2	5%	1/4W	F
R535	1-216-453-00	METAL OXIDE	270	5%	2W	F
R536	1-249-389-11	CARBON	4.7	5%	1/4W	F
R539	1-215-459-00	METAL	39K	1%	1/4W	
R543	1-249-419-11	CARBON	1.5K	5%	1/4W	
R546	1-249-431-11	CARBON	15K	5%	1/4W	
R547	1-247-883-00	CARBON	150K	5%	1/4W	
R550	1-249-429-11	CARBON	10K	5%	1/4W	
R551	1-249-429-11	CARBON	10K	5%	1/4W	
R554	1-216-371-00	METAL OXIDE	1.5	5%	2W	F
R556	1-249-411-11	CARBON	330	5%	1/4W	
R557	1-249-415-11	CARBON	680	5%	1/4W	F
R561	1-249-429-11	CARBON	10K	5%	1/4W	
R562	1-215-437-00	METAL	4.7K	1%	1/4W	
R563	1-249-429-11	CARBON	10K	5%	1/4W	
R564	1-249-433-11	CARBON	22K	5%	1/4W	
R566	1-249-435-11	CARBON	33K	5%	1/4W	
R580	1-249-411-11	CARBON	330	5%	1/4W	
R601⚠	1-202-888-91	SOLID	2.2M	20%	1/2W	
R602⚠	1-202-888-91	SOLID	2.2M	20%	1/2W	
R603	1-249-419-11	CARBON	1.5K	5%	1/4W	
R605	1-247-893-11	CARBON	390K	5%	1/4W	
R606	1-247-893-11	CARBON	390K	5%	1/4W	
R607⚠	1-202-933-61	FUSIBLE	0.1	10%	1/2W	F
R608	1-215-860-11	METAL OXIDE	33	5%	1W	F
R609	1-216-352-11	METAL OXIDE	1.8	5%	1W	F
R610	1-216-352-11	METAL OXIDE	1.8	5%	1W	F
R611	1-216-468-91	METAL OXIDE	82K	5%	2W	F
R612	1-216-468-91	METAL OXIDE	82K	5%	2W	F
R613	1-215-860-11	METAL OXIDE	33	5%	1W	F
R614	1-215-860-11	METAL OXIDE	33	5%	1W	F
R615	1-249-421-11	CARBON	2.2K	5%	1/4W	
R616	1-249-417-11	CARBON	1K	5%	1/4W	
R617	1-249-377-11	CARBON	0.47	5%	1/4W	F
R618	1-249-377-11	CARBON	0.47	5%	1/4W	F
R619	1-249-377-11	CARBON	0.47	5%	1/4W	F
R621	1-249-377-11	CARBON	0.47	5%	1/4W	F
R622	1-249-377-11	CARBON	0.47	5%	1/4W	F
R623	1-249-377-11	CARBON	0.47	5%	1/4W	F
R624	1-249-377-11	CARBON	0.47	5%	1/4W	F
R625	1-249-377-11	CARBON	0.47	5%	1/4W	F
R627	1-249-377-11	CARBON	0.47	5%	1/4W	F
R628	1-249-377-11	CARBON	0.47	5%	1/4W	F
R629	1-249-388-11	CARBON	3.9	5%	1/4W	F
R630	1-215-857-11	METAL OXIDE	10	5%	1W	F
R632	1-249-417-11	CARBON	1K	5%	1/4W	F
R633	1-249-405-11	CARBON	100	5%	1/4W	F
R635	1-249-413-11	CARBON	470	5%	1/4W	F
R636	1-249-383-11	CARBON	1.5	5%	1/4W	F
R637	1-249-421-11	CARBON	2.2K	5%	1/4W	
R638	1-249-423-11	CARBON	3.3K	5%	1/4W	
R639	1-249-423-11	CARBON	3.3K	5%	1/4W	
R640⚠	1-202-893-91	SOLID	8.2M	20%	1/2W	
R643	1-216-379-11	METAL OXIDE	6.8	5%	2W	F
R644⚠	1-212-853-61	FUSIBLE	6.8	5%	1/4W	F
R645	1-249-377-11	CARBON	0.47	5%	1/4W	F
R646	1-249-429-11	CARBON	10K	5%	1/4W	
R647	1-249-433-11	CARBON	22K	5%	1/4W	
R648	1-249-414-11	CARBON	560	5%	1/4W	
R649	1-216-431-11	METAL OXIDE	560	5%	1W	F
R650	1-249-405-11	CARBON	100	5%	1/4W	F
R651⚠	1-212-954-61	FUSIBLE	6.8	5%	1/2W	F
R652⚠	1-212-954-61	FUSIBLE	6.8	5%	1/2W	F
R653	1-249-381-11	CARBON	1	5%	1/4W	
R654	1-216-385-11	METAL OXIDE	0.47	5%	3W	F
R655	1-249-417-11	CARBON	1K	5%	1/4W	F
R656	1-249-381-11	CARBON	1	5%	1/4W	
R657	1-249-417-11	CARBON	1K	5%	1/4W	
R658	1-249-389-11	CARBON	4.7	5%	1/4W	F

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Ne les remplacer que par une piece portant le numero specifie.

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R659	1-247-883-00	CARBON	150K	5%	1/4W	
R660	1-249-433-11	CARBON	22K	5%	1/4W	
R661	1-249-406-11	CARBON	120	5%	1/4W	
R690	1-249-423-11	CARBON	3.3K	5%	1/4W	
R691	1-249-423-11	CARBON	3.3K	5%	1/4W	
R2209	1-249-427-11	CARBON	6.8K	5%	1/4W	
R2210	1-249-435-11	CARBON	33K	5%	1/4W	
R2211	1-249-427-11	CARBON	6.8K	5%	1/4W	
R2212	1-249-435-11	CARBON	33K	5%	1/4W	
R2215	1-249-425-11	CARBON	4.7K	5%	1/4W	
R2216	1-249-437-11	CARBON	47K	5%	1/4W	
R2217	1-249-435-11	CARBON	33K	5%	1/4W	
R2218	1-249-441-11	CARBON	100K	5%	1/4W	
R2219	1-249-413-11	CARBON	470	5%	1/4W	
R2220	1-249-430-11	CARBON	12K	5%	1/4W	
R2221	1-249-430-11	CARBON	12K	5%	1/4W	
R2222	1-249-398-11	CARBON	27	5%	1/4W	
R2223	1-249-418-11	CARBON	1.2K	5%	1/4W	
R2224	1-249-418-11	CARBON	1.2K	5%	1/4W	
R2225	1-249-398-11	CARBON	27	5%	1/4W	
R2226	1-249-385-11	CARBON	2.2	5%	1/4W	F
R2227	1-249-385-11	CARBON	2.2	5%	1/4W	F
R2228	1-249-421-11	CARBON	2.2K	5%	1/4W	
R2229	1-249-421-11	CARBON	2.2K	5%	1/4W	

<RELAY>

RY601 ⚠	1-515-684-22	RELAY	
RY602	1-515-516-00	RELAY	

<SWITCH>

S501	1-572-707-11	SWITCH, LEVER
S502	1-572-707-11	SWITCH, LEVER

<TRANSFORMER>

T501 ⚠	1-453-146-11	TRANSFORMER ASSY, FLYBACK (NX-2604A3)
T502 ⚠	1-437-195-14	TRANSFORMER, HORIZONTAL DRIVE (HDT)
T503 ⚠	1-424-545-22	TRANSFORMER, FERRITE (PMT)
T601 ⚠	1-423-593-11	TRANSFORMER, LINE FILTER (LFT)
T602 ⚠	1-424-220-21	TRANSFORMER, LINE FILTER (LFT)
T603 ⚠	1-423-563-11	TRANSFORMER, CONVERTER DRIVE (CDT)
T604 ⚠	1-423-615-11	TRANSFORMER, CONVERTER (PIT)
T605	1-423-582-11	TRANSFORMER, FERRITE (SBT)

<THERMISTOR>

THP601 ⚠	1-809-539-11	THERMISTOR, POSITIVE

<VARISTOR>

VDR601	1-807-288-11	VARISTOR
VDR602	1-810-053-21	VARISTOR
VDR603	1-810-053-21	VARISTOR

****

*1-646-717-11 H BOARD
****

<CAPACITOR>

C1001	1-124-916-11	ELECT	22MF	20%	25V	(KV-32TS46/32TS36/27TS36/27TS32)
C1002	1-124-903-11	ELECT	1MF	20%	50V	(KV-32TS46/32TS36/27TS36/27TS32)
C1003	1-124-903-11	ELECT	1MF	20%	50V	(KV-32TS46/32TS36/27TS36/27TS32)
C1004	1-124-122-11	ELECT	100MF	20%	50V	

<CONNECTOR>

CN154	*1-564-520-11	PLUG, CONNECTOR 5P (KV-32TS46/32TS36/27TS36/27TS32)
CN155	*1-564-523-31	PLUG, CONNECTOR 8P

<DIODE>

D1004	1-810-039-11	LED UNIT

<IC>

IC1001	8-741-618-11	IC SBX1618-51

<JACK>

J1001	1-695-585-11	JACK BLOCK, PIN (L TYPE) 3P (KV-32TS46/32TS36/27TS36/27TS32)

<RESISTOR>

R1001	1-247-804-11	CARBON	75	5%	1/4W	(KV-32TS46/32TS36/27TS36/27TS32)
R1002	1-249-425-11	CARBON	4.7K	5%	1/4W	(KV-32TS46/32TS36/27TS36/27TS32)
R1003	1-216-113-00	METAL GLAZE	470K	5%	1/10W	(KV-32TS46/32TS36/27TS36/27TS32)
R1004	1-249-425-11	CARBON	4.7K	5%	1/4W	(KV-32TS46/32TS36/27TS36/27TS32)
R1005	1-216-113-00	METAL GLAZE	470K	5%	1/10W	(KV-32TS46/32TS36/27TS36/27TS32)
R1007	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1008	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1009	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1010	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R1011	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1012	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1013	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1014	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1015	1-216-033-00	METAL GLAZE	220	5%	1/10W	

<SWITCH>

S1001	1-571-532-21	SWITCH, TACTIL
S1002	1-571-532-21	SWITCH, TACTIL
S1003	1-571-532-21	SWITCH, TACTIL
S1004	1-571-532-21	SWITCH, TACTIL
S1005	1-571-532-21	SWITCH, TACTIL
S1006	1-571-532-21	SWITCH, TACTIL
S1007 ⚠	1-571-532-23	SWITCH, TACTIL

****

MC-Service

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1394-415-A	UA BOARD, COMPLETE(KV-32TS36/27TS36) **********	
	*A-1394-435-A	UA BOARD, COMPLETE(KV-32TS46) **********	
	*A-1394-437-A	UA BOARD, COMPLETE(KV-27TS29) **********	
	*A-1394-441-A	UA BOARD, COMPLETE(KV-27TS32) **********	
		<CAPACITOR>	
C401	1-163-031-11	CERAMIC CHIP 0.01MF 50V	(KV-32TS46/32TS36/27TS32)
C402	1-124-916-11	ELECT 22MF 20% 25V	
C405	1-124-916-11	ELECT 22MF 20% 25V	(KV-32TS46/32TS36/27TS32)
C406	1-124-903-11	ELECT 1MF 20% 50V	(KV-32TS46/32TS36/27TS32)
C407	1-124-903-11	ELECT 1MF 20% 50V	(KV-32TS46/32TS36/27TS32)
C408	1-124-916-11	ELECT 22MF 20% 25V	(KV-32TS46/32TS36/27TS32)
C409	1-124-903-11	ELECT 1MF 20% 50V	
C410	1-124-903-11	ELECT 1MF 20% 50V	
C411	1-124-478-11	ELECT 100MF 20% 25V	(KV-27TS32/27TS29)
C412	1-124-916-11	ELECT 22MF 20% 25V	
C413	1-124-907-11	ELECT 10MF 20% 50V	
C414	1-124-499-11	ELECT 1MF 20% 50V	
C415	1-124-499-11	ELECT 1MF 20% 50V	
C416	1-124-907-11	ELECT 10MF 20% 50V	
C417	1-124-902-00	ELECT 0.47MF 20% 50V	
C418	1-124-902-00	ELECT 0.47MF 20% 50V	
C419	1-124-477-11	ELECT 47MF 20% 16V	
C420	1-163-031-11	CERAMIC CHIP 0.01MF 50V	(KV-32TS46/32TS36/27TS32)
C421	1-124-916-11	ELECT 22MF 20% 25V	(KV-32TS46/32TS36/27TS32)
C430	1-124-499-11	ELECT 1MF 20% 50V	(KV-32TS46)
C431	1-124-499-11	ELECT 1MF 20% 50V	(KV-32TS46)
C432	1-124-916-11	ELECT 22MF 20% 25V	(KV-32TS46)
C433	1-124-482-11	ELECT 33MF 20% 25V	(KV-32TS46/32TS36/27TS32)
C434	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	(KV-32TS46/32TS36/27TS32)
C440	1-124-907-11	ELECT 10MF 20% 50V	(KV-32TS46/32TS36/27TS32)
C441	1-124-477-11	ELECT 47MF 20% 16V	
C442	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	(KV-32TS46/32TS36/27TS32)
C462	1-126-101-11	ELECT 100MF 20% 16V	
		<FILTER BLOCK>	
CM402	1-466-912-21	FILTER BLOCK, COMB	
		<CONNECTOR>	
CN141	*1-564-520-11	PLUG, CONNECTOR 5P	(KV-32TS46/32TS36/27TS36/27TS32)
CN143	1-750-395-11	SOCKET, CONNECTOR 32P	
CN144	*1-564-521-11	PLUG, CONNECTOR 6P	(KV-32TS46)
CN146	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P	(KV-32TS46/32TS36/27TS32)
CN147	1-750-395-11	SOCKET, CONNECTOR 32P	
CN148	*1-564-517-11	PLUG, CONNECTOR 2P	
CN149	*1-564-519-11	PLUG, CONNECTOR 4P	(KV-32TS46)
		<DIODE>	
D401	8-719-110-17	DIODE RD10ESB2	(KV-32TS46/32TS36/27TS36/27TS32)
D402	8-719-110-17	DIODE RD10ESB2	
D403	8-719-110-17	DIODE RD10ESB2	
D404	8-719-110-17	DIODE RD10ESB2	
D405	8-719-110-17	DIODE RD10ESB2	(KV-32TS46/32TS36/27TS36/27TS32)
D408	8-719-110-17	DIODE RD10ESB2	(KV-32TS46/32TS36/27TS36/27TS32)
D410	8-719-110-17	DIODE RD10ESB2	
D411	8-719-110-17	DIODE RD10ESB2	
D429	8-719-110-17	DIODE RD10ESB2	
D430	8-719-110-17	DIODE RD10ESB2	
D431	8-719-110-17	DIODE RD10ESB2	
D436	8-719-110-17	DIODE RD10ESB2	(KV-32TS46/32TS36/27TS36)
D437	8-719-110-17	DIODE RD10ESB2	(KV-32TS46/32TS36/27TS36)
		<IC>	
IC401	8-759-634-69	IC M52470P	(KV-27TS32/27TS29)
IC402	8-752-062-86	IC CXA1545AS	(KV-32TS46/32TS36/27TS36)
IC403	8-759-088-00	IC MM1114XFF	(KV-27TS32)
IC404	8-759-164-18	IC MM1118XFF	(KV-27TS32)
		<JACK>	
J401	1-750-515-11	TERMINAL BLOCK, S 3P	(KV-32TS46/32TS36/27TS36/27TS32)
J401	1-750-517-11	JACK BLOCK, PIN 3P	(KV-27TS29)
J402	1-750-517-11	JACK BLOCK, PIN 3P	(KV-32TS46/32TS36/27TS36/27TS32)
J403	1-750-516-11	JACK BLOCK, PIN 2P	(KV-27TS29)
J404	1-750-516-11	JACK BLOCK, PIN 2P	
		<JUMPER RESISTOR>	
JR400	1-216-295-00	METAL GLAZE 0 5% 1/10W	(KV-27TS29)
JR401	1-216-295-00	METAL GLAZE 0 5% 1/10W	(KV-27TS29)
JR402	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR403	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR408	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR410	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR411	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR412	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR414	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR415	1-216-295-00	METAL GLAZE 0 5% 1/10W	(KV-32TS46/32TS36/27TS36/27TS32)
JR416	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR418	1-216-295-00	METAL GLAZE 0 5% 1/10W	

(SUPER WOOFER BOARD)

REF.NO.	PART NO.	DESCRIPTION				REMARK
	*A-1331-264-A	SUPER WOOFER BOARD, COMPLETE **********				(KV-32TS46 only)
		<CAPACITOR>				
C001	1-102-114-00	CERAMIC	470PF	10%	50V	
C002	1-102-114-00	CERAMIC	470PF	10%	50V	
C003	1-124-903-11	ELECT	1MF	20%	50V	
C004	1-124-903-11	ELECT	1MF	20%	50V	
C005	1-130-494-11	FILM	0.082MF	5%	50V	
C006	1-130-490-11	FILM	0.039MF	5%	50V	
C007	1-130-494-11	FILM	0.082MF	5%	50V	
C008	1-130-490-11	FILM	0.039MF	5%	50V	
C009	1-124-903-11	ELECT	1MF	20%	50V	
C010	1-124-903-11	ELECT	1MF	20%	50V	
C011	1-102-973-00	CERAMIC	100PF	10%	50V	
C012	1-124-903-11	ELECT	1MF	20%	50V	
C013	1-124-908-00	ELECT	0.47MF	20%	50V	
C014	1-124-907-11	ELECT	10MF	20%	50V	
C015	1-124-910-11	ELECT	47MF	20%	50V	
C016	1-124-472-11	ELECT	470MF	20%	10V	
C017	1-124-472-11	ELECT	470MF	20%	10V	
C018	1-124-120-11	ELECT	220MF	20%	25V	
C019	1-124-120-11	ELECT	220MF	20%	25V	
C020	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C021	1-130-491-00	FILM	0.047MF	5%	50V	
C022	1-130-491-00	FILM	0.047MF	5%	50V	
C023	1-124-360-00	ELECT	1000MF	20%	16V	
C024	1-124-360-00	ELECT	1000MF	20%	16V	
C025	1-124-636-91	ELECT	3300MF	20%	25V	
C026	1-124-472-11	ELECT	470MF	20%	10V	
C027	1-124-472-11	ELECT	470MF	20%	10V	
C028	1-124-472-11	ELECT	470MF	20%	10V	
C029	1-124-907-11	ELECT	10MF	20%	50V	
C030 ⚠	1-102-129-00	CERAMIC	0.01MF	10%	50V	
		<CONNECTOR>				
CN001	9-904-761-01	PIN, TERMINAL				
		<DIODE>				
D001 ⚠	9-904-758-01	DIODE RBA-402LF-A				
D002 ⚠	9-904-765-01	DIODE ERA15-02VH-T				
D003	9-904-766-01	DIODE RD9R1ES(B2)-T				
D004	9-904-766-01	DIODE RD9R1ES(B2)-T				
D005	8-719-802-30	DIODE 1SS176				
D006	8-719-802-30	DIODE 1SS176				

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<IC>				
IC001	9-904-756-01	IC NJM2068S				
IC002	9-904-756-01	IC NJM2068S				
IC003	9-904-756-01	IC NJM2068S				
IC004	9-904-757-01	IC M5233L				
IC005	9-904-755-01	IC TA8225L(PAIO-K)				
		<JACK>				
J001	9-904-759-01	RCA JACK				
		<TRANSISTOR>				
Q001	8-729-140-96	TRANSISTOR 2SD774-34				
Q002	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q003	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q004	8-729-119-76	TRANSISTOR 2SA1175-HFE				
		<RESISTOR>				
R001	1-249-405-11	CARBON	100	5%	1/4W	
R002	1-249-405-11	CARBON	100	5%	1/4W	
R003	1-249-426-11	CARBON	56K	5%	1/4W	
R004	1-249-426-11	CARBON	56K	5%	1/4W	
R005	1-247-862-11	CARBON	20K	5%	1/4W	
R006	1-247-862-11	CARBON	20K	5%	1/4W	
R007	1-247-862-11	CARBON	20K	5%	1/4W	
R008	1-247-862-11	CARBON	20K	5%	1/4W	
R009	1-247-862-11	CARBON	20K	5%	1/4W	
R010	1-247-862-11	CARBON	20K	5%	1/4W	
R011	1-249-431-11	CARBON	15K	5%	1/4W	
R012	1-249-413-11	CARBON	470	5%	1/4W	
R013	1-247-864-11	CARBON	24K	5%	1/4W	
R014	1-247-864-11	CARBON	24K	5%	1/4W	
R015	1-247-864-11	CARBON	24K	5%	1/4W	
R016	1-247-864-11	CARBON	24K	5%	1/4W	
R017	1-249-417-11	CARBON	1K	5%	1/4W	
R018	1-249-429-11	CARBON	10K	5%	1/4W	
R019	1-247-903-91	CARBON	1M	5%	1/4W	
R020	1-249-426-11	CARBON	5.6K	5%	1/4W	
R021	1-249-417-11	CARBON	1K	5%	1/4W	
R022	1-249-429-11	CARBON	10K	5%	1/4W	
R023	1-249-429-11	CARBON	10K	5%	1/4W	
R024	1-249-417-11	CARBON	1K	5%	1/4W	
R025	1-247-839-11	CARBON	2.2K	5%	1/4W	
R026	1-249-429-11	CARBON	10K	5%	1/4W	
R027	1-249-417-11	CARBON	1K	5%	1/4W	
R028	1-247-903-91	CARBON	1M	5%	1/4W	
R029	1-249-433-11	CARBON	22K	5%	1/4W	
R030	1-249-440-11	CARBON	82K	5%	1/4W	
R031	1-249-433-11	CARBON	22K	5%	1/4W	
R032	1-247-839-11	CARBON	2.2K	5%	1/4W	
R033	1-249-433-11	CARBON	22K	5%	1/4W	

KV-27TS29/27TS32/27TS36

RM-Y116 RM-Y117 RM-Y118

KV-32TS36/32TS46

RM-Y118 RM-Y118 SA-W200

SONY

SERVICE MANUAL

US Model

KV-27TS29 Chassis No. SCC-F84C-A
KV-27TS32 Chassis No. SCC-F84E-A
KV-27TS36 Chassis No. SCC-F84D-A
KV-32TS36 Chassis No. SCC-F84A-A
KV-32TS46 Chassis No. SCC-F84B-A

Canadian Model

KV-27TS29 Chassis No. SCC-F85C-A
KV-27TS36 Chassis No. SCC-F85D-A
KV-32TS36 Chassis No. SCC-F85A-A
KV-32TS46 Chassis No. SCC-F85B-A

CORRECTION-1

Correct the service manual as shown below.
File this collection with the service manual.

☛ : Corrected portion

SECTION 3 SET-UP ADJUSTMENTS **(See page 40)**

Incorrect	Correct
3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS	**3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS**
1. G2 (SCREEN) ADJUSTMENT(RV702) 1. Set the PICTURE and BRIGHTNESS to normal. 2. Confirm G1 voltage is within 30.0±5V. 3. Apply DC voltage of 180V to the cathodes of R, G and B from DC stabilized power source. 4. While watching the picture, adjust the G2 control (RV702) to the just the retrace line disappears.	**1. G2 (SCREEN) ADJUSTMENT(RV702)** 1. Set the PICTURE and BRIGHTNESS to normal. 2. Confirm G1 voltage is within 30.0±5V. 3. Apply DC voltage of 170V to the cathodes of R, G and B from DC stabilized power source. 4. While watching the picture, adjust the G2 control (RV702) to the just the retrace line disappears.

MICROFILM

SECTION 7 EXPLODED VIEWS

7-2. PICTURE TUBE (See page 102)

Incorrect	Correct
63 ⚠ 1-451-275-41 DEFLECTION YOKE (Y34FXA) (KV-27TS36/27TS32/27TS29)	63 ⚠ 1-451-275-41 DEFLECTION YOKE (Y28PFA) (KV-27TS36/27TS32/27TS29)

SECTION 8 ELECTRICAL PARTS LIST

D BOARD (See page 113)

Incorrect	Correct
PM501 1-810-061-11 PROTECTOR MODULE PM-39 (KV-27TS36/27TS32/27TS29)	PM501 1-810-061-11 PROTECTOR MODULE PM-38 (KV-27TS36/27TS32/27TS29)

MISCELLANEOUS (See page 117)

Incorrect	Correct
⚠ 1-451-275-41 DEFLECTION YOKE (Y34FXA) (KV-27TS36/32TS32/27TS29)	⚠ 1-451-275-41 DEFLECTION YOKE (Y28PFA) (KV-27TS36/27TS32/27TS29)

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KV-27TS29/27TS32/27TS36

RM-Y116 RM-Y117 RM-Y118

KV-32TS36/32TS46

RM-Y121 RM-Y116

SA-W200

SONY

SERVICE MANUAL

SUPPLEMENT-1

SUBJECT : PARTS CHANGE

Supplement the service manual as shown below.

File this supplement with the service manual.

US Model

KV-27TS29 Chassis No. SCC-F84C-A
KV-27TS32 Chassis No. SCC-F84E-A
KV-27TS36 Chassis No. SCC-F84D-A
KV-32TS36 Chassis No. SCC-F84A-A
KV-32TS46 Chassis No. SCC-F84B-A

Canadian Model

KV-27TS29 Chassis No. SCC-F85C-A
KV-27TS36 Chassis No. SCC-F85D-A
KV-32TS36 Chassis No. SCC-F85A-A
KV-32TS46 Chassis No. SCC-F85B-A

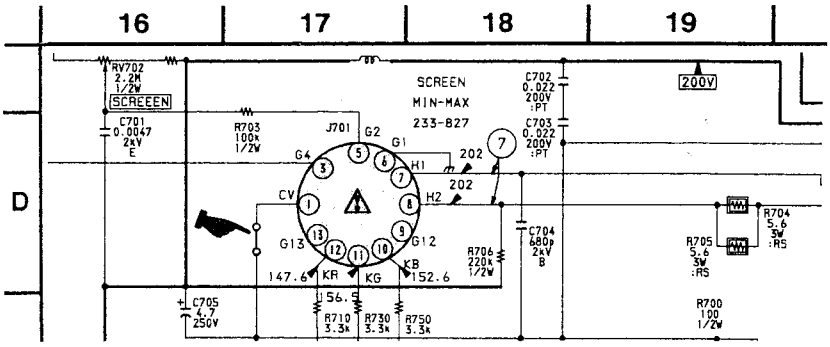
INTRODUCTION

PART CHANGE : KV-32TS36/32TS46 only

SECTION 6 DIAGRAM

6-3. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS (See page 64)

C BOARD



SECTION 7 EXPLODED VIEW

7-2. PICTURE TUBE (See page 102)

REF. NO.	PART. NO.	DESCRIPTION
59	⚠8-733-734-05	PICTURE TUBE (A80JYV50X) (KV-32TS46/32TS36)
	⚠8-733-848-05	PICTURE TUBE (A68KZJ50X) (KV-27TS36/27TS32/27TS29)

SECTION 8 ELECTRICAL PARTS LIST

MISCELLANEOUS (See page 117)

REF. NO.	PART. NO.	DESCRIPTION
V901	⚠8-733-734-05	PICTURE TUBE (A80JYV50X) (KV-32TS36/32TS46)
	⚠8-733-848-05	PICTURE TUBE (A68KZJ50X) (KV-27TS36/27TS32/27TS29)

MICROFILM

9-964-933-81

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TV & Display Products Div.

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KV-27TS29/27TS32/27TS36

RM-Y116 RM-Y117 RM-Y118

KV-32TS36/32TS46

RM-Y118 RM-Y119

SA-W200

SONY

SERVICE MANUAL

US Model

KV-27TS29 Chassis No. SCC-F84C-A
KV-27TS32 Chassis No. SCC-F84E-A
KV-27TS36 Chassis No. SCC-F84D-A
KV-32TS36 Chassis No. SCC-F84A-A
KV-32TS46 Chassis No. SCC-F84B-A

Canadian Model

KV-27TS29 Chassis No. SCC-F85C-A
KV-27TS36 Chassis No. SCC-F85D-A
KV-32TS36 Chassis No. SCC-F85A-A
KV-32TS46 Chassis No. SCC-F85B-A

CORRECTION-2

SUBJECT : PART CHANGE

Correct the service manual as shown below.

File this collection with the service manual.

☛ : Corrected portion

SECTION 8 ELECTRICAL PARTS LIST

D BOARD (See page 112)

Incorrect			Correct		
REF. NO.	PART. NO.	DESCRIPTION	REF. NO.	PART. NO.	DESCRIPTION
D612	8-719-031-80	DIODE D5SC4MR	D612	8-719-031-79	DIODE D5SC4M

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9-964-933-92

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KV-27TS29/27TS32/27TS36

RM-Y116 RM-Y117 RM-Y118

KV-32TS36/32TS46

RM-Y118 RM-Y119

SA-W200

SONY

SERVICE MANUAL

US Model

KV-27TS29 Chassis No. SCC-F84C-A
KV-27TS32 Chassis No. SCC-F84E-A
KV-27TS36 Chassis No. SCC-F84D-A
KV-32TS36 Chassis No. SCC-F84A-A
KV-32TS46 Chassis No. SCC-F84B-A

Canadian Model

KV-27TS29 Chassis No. SCC-F85C-A
KV-27TS36 Chassis No. SCC-F85D-A
KV-32TS36 Chassis No. SCC-F85A-A
KV-32TS46 Chassis No. SCC-F85B-A

CORRECTION-3

SUBJECT : PART CHANGE

Correct the service manual as shown below.

File this collection with the service manual.

☛ : Corrected portion

SECTION 8 ELECTRICAL PARTS LIST

D BOARD (See page 112)

Incorrect			Correct		
REF. NO.	PART. NO.	DESCRIPTION	REF. NO.	PART. NO.	DESCRIPTION
IC610	8-759-150-61	IC UPC78L05T	IC610	8-759-708-05	IC NJM78L05A

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9-964-933-93

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K25

SONY
SERVICE MANUAL

AA-1 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-27TS29	RM-Y116	US	SCC-F84C-A
KV-27TS29	RM-Y116	Canadian	SCC-F85C-A
KV-27TS32	RM-Y117	US	SCC-F84E-A
KV-27TS36	RM-Y118	US	SCC-F84D-A
KV-27TS36	RM-Y118	Canadian	SCC-F85D-A
KV-32TS36	RM-Y118	US	SCC-F84A-A
KV-32TS36	RM-Y118	Canadian	SCC-F85A-A
KV-32TS46	RM-Y118 SA-W200	US	SCC-F84B-A
KV-32TS46	RM-Y118 SA-W200	Canadian	SCC-F85B-A

CORRECTION-4

SUBJECT: ADJUSTMENT CHANGE

File this correction with the Service manual.

☛ : Corrected portion

SECTION 3 SET-UP ADJUSTMENT

Preparations(See page 35)

INCORRECT	CORRECT
(1) In order to reduce the influence of geomagnetism on the set's picture tube face it east or west. (2) Switch on the set's power and degauss with the degausser.	(1) In order to reduce the influence of geomagnetism on the set's picture tube face it east or west. Note:Please do not use the hand degausser, because the hand degausser efects a spot on a CRT and magnetizes CRT around. ☛

MICROFILM

※ Please file according to model size. .....

27 34

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(SUPER WOOFER BOARD)

REF.NO.	PART NO.	DESCRIPTION				REMARK
R034	1-249-429-11	CARBON	10K	5%	1/4W	
R035	1-249-429-11	CARBON	10K	5%	1/4W	
R036	1-249-433-11	CARBON	22K	5%	1/4W	
R037	1-249-417-11	CARBON	1K	5%	1/4W	
R038	1-247-866-11	CARBON	30K	5%	1/4W	
R039	1-249-405-11	CARBON	100	5%	1/4W	
R040	1-247-842-11	CARBON	3K	5%	1/4W	
R041	1-249-405-11	CARBON	100	5%	1/4W	
R042	1-247-842-11	CARBON	3K	5%	1/4W	
R043	9-904-764-01	METAL OXIDE	1	5%	1/2W	
R044	9-904-764-01	METAL OXIDE	1	5%	1/2W	
R046 ⚠	9-904-762-01	METAL OXIDE	10	5%	1/4W	
R047	9-904-763-01	METAL OXIDE	1.8K	5%	1/2W	
R048	1-249-429-11	CARBON	10K	5%	1/4W	
R049	1-249-429-11	CARBON	10K	5%	1/4W	
		<VARIABLE RESISTOR>				
VR001	9-904-760-01	VOLUME				
		**********				
		MISCELLANEOUS				
		**********				
⚠	9-904-750-01	CORD, POWER				
⚠	9-904-753-01	AC OUTLET				
F001 ⚠	9-904-752-01	FUSE				
SP901	9-900-278-01	SPEAKER				
T901 ⚠	9-904-751-01	TRANSFORMER, POWER				

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